



**LEARNING AND INFORMATION RESOURCE CENTRE**

**— LIST OF BEST B.E. PROJECTS: YEAR 2016, 2017, 2018, 2019, 2020, 2021 and 2022**

S.N.	PR Acc No.	Author	Title of the Project	Branch	Year	Abstract	Name of the Guide
1	1237	REBELLO AARON A, PEREIRA ROYDON G, PEREIRA RUSSEL P	SMARTHOMES	CMPN	2016	Today everything that we use is expected to be 'Smart' for example smart phones, smart TVs, etc. Similarly, 'Smart Homes' is a project directed towards the most common problem that we face today that is 'Complexity due to convenience'. With more things coming into our life for our convenience, the aspect of keeping all of them under your control is getting complex. As the socio-economic conditions are improving and the technology is progressing, more and more appliances are put into our houses for our ease and convenience in turn increasing the complexity. To tackle this, our project proposes to implement a smart system that allows you to control your appliances over the internet. There is a new buzzword in the field to networking that is 'Internet of Things'. IoT allows people and things to be connected anytime, anyplace, with anything and	MRS VARSHA NAGPURKAR

						<p>anyone, by using ideally any path/network and any service. But the issue is that there is no substantial framework to implement this project at a commercial level and so, our project is also directed towards providing this framework for IoT by implementing 'Smart homes'. Our objective is to control the appliances in the house using a smart phone. You can control all the appliances in the house from any place in the world where there is internet connectivity just by one touch. This will also be an aid to the elderly and the physically handicapped. This project proposes to build a smart phone application that can be customized according to each user's home needs. We intend to commercialize the system which can be fitted into already existing connections of electrical appliances. In future this system can serve the purposes of controlling and securing our homes from anywhere on our command making it a smart and a secure home.</p>	
2	1279	PANDIT POOJA, PURANDARE VASUDEV, SHUKLA ANAND	HIERARCHICAL FUZZY INFERENCE SYSTEM FOR MEDICAL DIAGNOSIS	CMPN	2016	<p>Fuzzy Cognitive Maps (FCMs) are a soft computing technique that follows an approach similar to human reasoning and human decision-making process, considering them a valuable modeling and simulation methodology. Fuzzy Cognitive Maps (FCMs) are a modeling and simulation methodology based on an abstract conceptual representation of any system. FCMs are suitable to model Medical Decision Support Systems. Hierarchical Fuzzy Inference concept can be used for recognizing disease based on the patterns of symptoms. The proposed system aims to gather</p>	MRS ANURADHA SRINIVASARA GHAVAN

						<p>symptoms common to both diabetes and thyroid later proceeding towards those symptoms that distinguish between the two using Fuzzy Cognitive Maps to get advantage of accuracy. The proposed system will work on real time Data Set and will provide analysis of data using the concepts of Fuzzy Cognitive Maps (FCM). FCM is used in this case to differentiate between the two diseases having similar symptoms.</p>	
3	1312	NARE GAUR,MENEZES JEVIN, MENEZES THERON, MISTRY JIGAR,	RECOMMENDATION SYSTEM FOR RESTAURANTS	EXTC	2016	<p>Restaurants and Dining is one of the businesses which will never shut down for the next 100 years to come. Also, after the globalization of Internet, the increase in online activity such as social networking, E-commerce, paying online bills, online teaching of courses and many other services have led the internet users to search for trivial as well as most difficult things online through their computers, smartphones and other internet enabled smart-gadgets. Such an internet user finding an appropriate restaurant for a family weekend outing, hosting parties or similar occasions would have to search for restaurants information and making decisions on where to eat will have to rely on crowd-sourcing review sites or blogs. But Internet as a whole is quite messy with loads of information and details of each and everything and this has created the problem of information overload for an average user. To help making such decisions, recommendation systems</p>	DR DEEPAK JAYASWAL

						play an important role in all kinds of aspects e.g. books, movies, shopping, entertainment etc. In this project, we designed an idea and built a restaurant recommendation system by incorporating the Yelp’s datasets for restaurant businesses. This project work focuses on whether a given a (yelp) user wanting to visit a restaurant will like it or not. To model this, we worked on machine learning algorithms and reduced the dimensionality of restaurant features to have better classification results.	
4	1299	NIPUN KHATRI, HARIYA CHIRAG, BHAT VIKRANTH, DSOUZA DIALEN	INTERNET OF THINGS USING POWER LINE COMMUNICATION	EXTC	2016	The Internet of Thing(or IoT), is a network of physical objects which enables Machine to Machine(M2M) communication and thereby transforming an ordinary device into a smart connected device. The Project at its core intends to use the 230V ac power line as a backnone channel for M2M communications. The power line communication (PLC) enables us to transmit data over the already existing infranstructure of mains supply lines and thereby eliminating any need for deploying a new infranstrure altogether. All the present architectures for the IoT systems uses wireless communications techniques in one form or another. All of this wireless commnications, technique have a peculiar shortcoming range limitations and also add unnecessary clutter to the RF	MRS PALLAVI PATTIL

						<p>spectrum. Also it imparts a need of a new infrastructure to be employed which adds to the system cost making the present IoT systems very expensive. The project under consideration makes use of already available infrastructure of powerline wiring for the M2M communications and thereby exploiting the fact that almost all the devices that needs to connected to the systems, such as home appliances, need 230V ac supply to functions and hence comes in the range of communications. Since the power lines are widely spread in an apartment or industry it can provide an extensive coverage. The project amis to initially implement a data rate of 1200 bauds for upline and a same rate for downlink in a full duplex arrangement, thus making a combined simultaneous data rate of 2400 bauds. A marrowband phase lock loop structure is used to realize the FSK modulation scheme for the PLC transceiver module. The data structure and frame format for the PLC frame was also developed after a comprehensive literature survey and is discussed in details in this document. A simulation kind of exercise was performed to examine the work flow of the IOT cloud- machine interface. IT is intended to realize the complete interface in embedded hardware in the scop of project.</p>	
5	1201	HARLALKA SANCHITA, GADHIA MILIND, MAJITHIA KRUTARTH, DHUMAL PRANALI	SPATIALDATA MINING TO DETERMINE REAL ESTATE PROPERTY RANKING	INFT	2016	Spatial data mining is a process of discovering interesting, useful, non-trivial patterns from largespatial datasets. Spatial data mining differs from traditional data mining in a way that theattributes of neighbors of some object of interest may have an	DR VAISHALI JADHAV

					<p>influence on the object. The traditional systems like Magicbricks , 99 acres.com are online portals in which the seller or broker posts a property picture along with the description and various users who visit the website, rate the property according to their preferences. The prices are given based on per square foot area and uses techniques like multivariate regression, or traditional data mining are used. The existing system is not map enabled and do not provide graphical representation of states. Distance calculation between geographical spots is missing. Also comparison of properties is not done and the rating provided is not standard. The traditional flaws can be removed using spatial data mining. The proposed system is an online portal from where user can search appropriate properties. Spatial data mining will be done using SQL server. All the properties available will be put up on the site along with the description where the user selects appropriate property. The property rating and price estimation will be provided based on the amenities surrounding the property using algorithms that will be used to group the data. Also, map of the location will be provided. Lastly, the properties can be compared based on the rating and affordable price.</p>		
6	1212	ASHOK ADARSH, JAIN RUSHVI, JHA ANKESH JOSHI TANAYA	BIG DATA ANALYTICS OF SOCIAL MEDIA	INFT	2016	<p>The proposed system involves the collection, analysis and interpretation of social media data to facilitate effective decision making. It uses the content of social media to create a real time visual understanding of how people, trends, products and brands are mentioned in social media. The task of</p>	MS SONALI VAIDYA

				<p>sentiment analysis is done by categorizing the data into two polarities that is positive or negative sentiments. The system provides organizations with an intimate platform to track and understand customer views, sentiments, key topics, trends and identify key influence-rs. The proposed system in addition to sentiments also takes into consideration context and content to provide an in-depth analysis for better and accurate insight. The system proposed here handles crawling, extracting reviews and storing them for analysis. Collected unstructured text is prepared for text mining and sentiment analysis. System presented gives the analysis results for every single review or tweet. The proposed system will also perform filtering based on the type and time. The system will let the user filter data by images, videos, posts, tweets and links. The system will also display the data based on the number of days/weeks/months/year old it is. So anyone can view the data that is a month old or say a day old. The system will also provide a graphical interpretation of the data. It could be a graph showing number of tweets vs. months or number of likes vs. number of days, etc. This would help companies know the status of their product in the market through data collected from various social media sites and how it has created a stir there.</p>	
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7	1364	BHARADWA NAINA, GHOTGALKAR MITALI, KALGAMWALA DISHA,PADTE SHREYA,	3D MODEL GENERATION FOR EDUCATION USING AUGMENTED REALITY	INFT	2017	Augmented Reality is the presentation of objects superimposed on the real world view of the environment. It is an innovative technology that allows multidimensional viewing and understanding of concepts. This paper aims to use this concept of Augmented Reality in the field of Education to create an application that generates 3D models of the images embedded in textual materials using the software Unity and Vuforia. The application uses a smartphone's camera to scan the embedded image of a textbook, e-book or photocopy and generates a 3D working model with live animations as well as on-click functionalities to view various movements of the model by providing user interaction. This application aims to provide an active learning experience to students.	MS PURNIMA KUBDE
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8	1384	POTDAR,ANUJ,PRABHU,ABHIJEET,YADAV,SIDDHESH	LEGENDS OF THE GOLDEN SPARROW	INFT	2017	<p>The project aim is to create an interactive Unity3D game that helps primary school students to get a visual understanding of the key historical figures and their achievements, which makes the subject interesting and easy to learn and recall. The game will have the capability of storing the progress of the player by creating a save file and later loading it to replay from a check point or last save along with a level select screen for the players to replay and improve previous levels. The game will have various gameplay aspects which will differ as per the levels/objective in the game, such as Stealth, Run, Fight, etc. A brief module of the game will display the area of influence of the protagonist at the time and his contributions towards the people under his rule. Once the Student completes a specific level he will be directed to a cutscene which will narrate the events of the story. At the end of video, the student will have to answer a quiz, which will be based on current level. On solving the quiz successfully s/he will be unlocking and playing the next level. Our project aims to improve the existing systems for historical education for the school students, who currently have little motivation to study dry dates and events. Rote learning in a greed for inflated marks leads to little understanding and appreciation of the historical Indian heroes and their contribution to the heritage of Independent India. This degrades their significance and defeats the purpose of inclusion of history in the current curriculum of education</p>	MS. NAZNEEN ANSARI
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9	1444	RASQUINHA,ACHILLES JEROME, SEQUEIRA,KENNETH JEROME	IMAGE CONTEXT ANALYSIS AND CONTEXTUAL CAPTION GENERATION USING RECURRENT NEURAL NETWORKS	CMPN	2017	<p>This project aims to identify the purpose behind a visual depiction of an image captured, analyse the context behind a visual image and generate an artistic caption for the same. The resultant caption will not necessarily be descriptive, but rather contextual and creative. There does not exist a direct mapping between the image and its corresponding descriptions generated but an abstract mapping that denotes the image into sentences which is very much artistic and aiming to exhibit a kind of computational creativity. A user interface is built for users to upload, paste a remote image URL or click an image via a capture device.</p> <p>Initially, an input image is captured from a client which is then encoded into a base-64 string and is sent to our Application Program Interface (API) running on a configured server. The said API awaits for a base64 image string which is then passed through a pre-trained Convolutional Neural Network which generates descriptive image captions. Such image captions are then transformed into artistic sentences using our proposed architecture thereby providing a variable sized artistic description of the same.</p>	MS VINCY JOSEPH
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10	1403	BHOIR CHIRAG, D SOUZA AKASH, D SOUZA IAN	VEHICLE TRACKING USING GPS,GSM AND RASH DRIVING DETECTION	CMPN	2017	Vehicle tracking is one of the most critical aspects involved in vehicle security. Due to large number of vehicle thefts that happen these days the best way to ensure the security of your vehicle in an event of a theft is to install tracking system in your vehicle. Also with the advent of cab services like uber and ola it's become imperative for managers to track the positions of their vehicles and also monitor how they are being driven. A vehicle tracking system is a system that combines the use of automatic vehicle location in individual vehicles with software that collects these fleet data for a comprehensive picture of vehicle locations. Modern vehicle tracking systems commonly use GPS or GLONASS technology for locating the vehicle. These systems however do not provide information about whether the vehicle is being driven rashly. To overcome this we can integrate the above vehicle tracking system with a rash driving detection module A rash driving detection module makes use of an accelerometer as its main component and provides information about the direction in which the vehicle is travelling as well as the changes in its acceleration. The aim is to create a system that is easy to use and cost effective so that it can be used on a large scale.	MRS NIDHI GAUR
11	1484	MISHRA SUMEET, PATIL RAHUL, PATIL VIVEK PAWAR DHAVAL	NARROWBAND COUPLED - LINE ABSORPTIVE BANDSTOP FILTER	EXTC	2017	Absf is designed in order to absorb the leakage power that is present between local oscillator and rf leakage. The power that is leaked is mainly absorbed at port 1. The absorption takes place because of introduction of lossy resonator.	MR INDERKUMAR KOCHAR

12	1479	<p>NAIK NUTAN, NAYAK SARVESH,BOSCO NITHIN JOHN, PARAB HARSH</p>	<p>IMAGE ENCRYPTION USING FRACTIONAL ORDER CHAOS AND CML</p>	EXTC	2017	<p>Chaos based encryption techniques have been widely used for real time encryption and decryption. But the techniques with only chaos theory are prone to same attacks as other encryption techniques. So to enhance the security mechanism and the robustness as well as to keep up with the newly developing ‘real time’ technology a color image encryption algorithm by using ‘Coupled Map Lattice’ as well as ‘Fractional order chaotic system’ system will be implemented. To increase the complexity and to deviate the hacker attacks, the image will be divided into four sub-images and then the positions of the image needs to be shuffled. This procedure will significantly enhance the resistance of the proposed cryptosystem against known/chosen-plaintext attacks. A 280 bit key will employed to generate initial conditions and parameters. In addition, theoretical analyses and computer simulations verification is proposed to check the feasibility and superiority of the proposed image cryptosystem.</p>	<p>MR SANTOSH CHAPANERI</p>
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13	1483	SAWANT AKSHAY, SEBASTIAN SANGEET,SHENOY AMEYA, SHETTY SIDDARTHA	OCTAPAD USING IMAGE PROCESSING	EXTC	2017	Music is an art form and cultural activity whose medium is sound and silence, which exist in time. The common elements of music are pitch (which governs melody and harmony), rhythm (and its associated concepts tempo, meter, and articulation), dynamics (loudness and softness), and the sonic qualities of timbre and texture (which are sometimes termed the "color" of a musical sound). This project implements an Octapad purely using the power of image processing. Initially, feed from a camera wirelessly connected to a PC is taken. The camera points towards a rough image of a 2×4 grid i.e. the basic design of an octapad as shown in picture. Then based on which section of the octapad is struck, the corresponding sound will be produced. The project utilizes python as the primary programming language, and the libraries used consist of numPy (for matrix related calculations), sciPy (for various complex mathematical operations), openCV (for image and video processing). All elements of this project are open sourced, and hence can be used by anyone.	DR GAUTAM SHAH
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14	1566	CHAUHAN SALONI, BAJPAI ADINATH, MISHRA ARCHANA, JAMES DYLAN	SMART EHR SYSTEM USING RFID CARD	CMPN	2018	EHR or the Electronic Health Record is a digital version of any patient’s medical records. The entire history of patient’s medical records is stored in a computer so that it can be accessed anytime and by anyone who is authorized to access. The concept of electronic health record saves a lot of time, resources as well as increases the accuracy of records by avoiding human errors. Computer based hospital information systems emerged in late 1960s. At that time they were primarily used for storing patient’s medical details and accessing laboratory test results. These early systems collected clinical information, but their major purpose was to capture charges and not assist the physicians with delivering patient care. The aim of developing this system is to implement smart electronic health record system that can be used by all doctors across the nation. This feature will connect the medical records of a patient that is generated in different hospitals. Along with it, additional features will assist the doctors in storing, accessing as well as analyzing the patient records. Smart card is used in this system. We all have a lot of cards in our wallet, be it ATM cards, debit cards or even a shopping card. The eHcard is one addition to your wallet. This card uses RFID technology and will allow you to access all your medical records. Problem lists or medical records can be any healthcare organization’s best friend or worst nightmare. eHcard can extend benefits to a healthcare organization. This practice will explore the use and maintenance of medical records with a special focus on how digital	DR KAVITA SONAWANE
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					<p>environment can add enormous functionality for sharing patient details and provide continuous care.Using data mining approach the patient records will be analyzed to find out the occurrence of certain diseases. This could be used to alarm the doctor about whether a patient can be soon affected by a certain disease and must be given priority. Statistical display of blood reports will also help in patient record analyzing. The focus is also to secure patient records as they are highly sensitive and confidential. To ensure security, encryption of information is done by using Bcrypt hashing algorithm. Using a smart card or as we call it the eHcard will bring electronic ease to the hectic and crucial process of healthcare management by providing various benefits like increasing productivity, lowering costs, reducing medication errors, increasing transparency and fraud detection and easing the manpower shortage in healthcare.</p>	
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15	1555	SULE RENUKA, WALAWALKAR SHRUTI	COLOR CODE DETECTION	CMPN	2018	In a time where everything is becoming digital, right from an app for ordering food to withdrawing money or for purchasing any household item, the need to increase digitization of every activity so as to ease out the human work has increased. The work of people especially interior designers, architects, home decorators or artists involves a lot of heavy swatches carrying from place to place. Furthermore, it is not feasible to record a color at one place and reproduce the exact same color with the exact properties at another place. Thus a color code detecting tool to calculate universally accepted code of a color is a need of such professionals. The app, 'Color Code Detector' will be linked with a hardware tool which will eliminate such issues. The unadulterated color will be fetched by the hardware device will be given to the Android app which will first store the specifics of the color i.e. the RGB code, Hex code, CMYK code and HSL values in the database for any further use at any time needed. With advancements in technology, creative professionals now use softwares for their work. The sharing feature of the app allows these professionals to use the codes detected digitally. The aim is to enable the designers to keep a track of the colors detected by them and eliminates the need of carrying different swatches and other heavy material since every piece of data will henceforth be collected by the app there by making it more convenient for the end users and replace the old tradition with a digital one.	MRS ANKITA KARIA
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16	1524	DUBEY RAHUL, EDWARD BINI, LEWIS REGINALD	ALGORITHM TO CODE CONVERTER,	CMPN	2018	The conversion of an algorithm to code is still at an early stage. Effective conversion of algorithms mentioned in semi-natural English language to code will enable programmers to mainly focus on logic building and free them from syntactical worries. Further, it will also aid the visually impaired programmers. Beginners and inexperienced people sometimes do not understand the paradigm and style of the programming language at hand, so implementing a code in such languages imposes a large burden. Moreover, there are many programming languages which allow coding in a variety of paradigms. So it is not easy for someone not trained in Computer Science to initially write a program in a particular language as he/she may not have much idea about the syntax of that language. We propose a translation process that allows the people to write the algorithmic solutions of the problem in the form of pseudocode which can further be translated into a programming language like C. Although beneficial, implementation of such a converter encounters numerous challenges like limitations imposed due to semantics of the English language and adapting various writing styles of different users. In this project we have introduced an interpreter that is capable of converting algorithms in the form of pseudocode to C code whose flexibility of interpretation has been enhanced by using synonyms and by the introduction of an XML	MRS PRIYA KARUNAKAR AN
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						Specification File whose concept has been outlined below.	
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17	1550	PEREIRA SALOMIE, JOSEPH NEIL, SALDANHA JENITA PREEMA	AUTONOMOUS SELF-LEARNING AGENT FOR COLLISION AVOIDANCE	CMPN	2018	<p>This project describes the design and implementation of robot control systems that feed the environment into its memory and use Q-learning algorithm, which is a model-free reinforcement learning technique. Specifically, Q-learning can be used to find an optimal action-selection policy. When the robot visits the same environment again it scans the environment using the sensors and camera. If the robot detects a new object, then it scans the object and perform image processing using OpenCV to determine whether the detected object is required or an obstacle. If the object is required, then pick the object and then drop it at the target location and if it's an obstacle then q-learning algorithm is performed by the robot. Our main objective of this project is to implement q-learning in our robot so that the robot learns to avoid obstacles on its own through its previous experiences as normal humans do. The robot also has learnt to adapt in different environments by learning on its own. In addition to this, we have added one application to our main project. This is an intelligent robot which can be used for various purposes such as supermarket where the customer can choose which particular object to be picked up and the robot carries out this task. We have selected this robot for this process due to the reason it could save a lot of time and it could help people who can't do stuff on their own instead always depends on others (especially senior citizens and the disabled).</p>	MR SHAMSUDDIN S KHAN
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18	1523	FERNANDES ASHLEY, FERNANDES WINSTON, GOMES THELMA	INTERACTIVE PRINT MEDIA USING AUGMENTED REALITY	CMPN	2018	Augmented Reality (AR) is one of the revolutionary technologies gaining fast pace in enhancing user interaction. The field of education is evolving day-by-day. It needs to keep accomplishing its goal of providing knowledge seamlessly. The use of mere images in print media such as textbooks, limits the understanding of the learner. A much more interactive approach is required to boost the overall learning experience. The existing systems are quite capable of delivering useful content such as 3D models by capturing these images. But they use special markers to track the camera's position, and more time is consumed in creating such models. This limits their potential to a certain extent as it is not feasible to create markers for all kinds of images. This research work focuses on developing an Android application using Marker-less AR technology. The proposed system encompasses image recognition using the mobile camera, rendering relevant YouTube videos pertaining to the image, and their superimposition in augmented view. The main aim of this system is to enhance the productivity of education by combining the traditional learning methods with AR technology to enliven images with interactive videos.	MS SWEEDLE MASCARNES
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19	1619	HANAMSHET PRANAY, HUNUR SHREYA LABDHE VIKRANT, LOHARE PRANAV	PERFORMANCE ANALYSIS OF ROUTING PROTOCOLS IN MANETs	EXTC	2018	Mobile ad hoc networks (MANETs) are networks that consist of wireless nodes. These nodes are mobile and self-configurable. MANETs do not have any fixed infrastructure. Due to its dynamic nature, nodes can be added or removed at any time. The performance requirements of such a network depends on the routing algorithms used. Thus, the routing algorithms are a crucial part of designing this specialized network. This project presents performance evaluations and analyses for two routing protocol types: Proactive and Reactive routing protocols. As the no. of nodes increase or decrease, the significance in the change in nature of the system is an important entity to be duly noted. In real life MANETs, as the nodes are dynamic, their number will continuously change. And maintaining the trade-off is an important challenge that designers face. Similarly, when the velocity of the nodes change, the dynamics of the network change and it becomes extremely important to monitor the output of the system closely. This project shows the produced simulation results after evaluating the normalized routing load, packet delivery ratio, throughput and average end-to-end delay of a MANET under two different scenarios viz. variation in number of nodes and velocity of nodes. Number of nodes is an important parameter to judge a network's efficiency and effectiveness. Lastly, a calculated conclusion of the simulation results will be presented.	MR.RAMJEE YADAV
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20	1631	NAMBIAR AISHWARYA, PISHARODY JANAK PHALKE SWAPNIL, PARAB SONALI	EXTRACTION OF VOICE AND MUSIC FROM AUDIO SIGNAL	EXTC	2018	Music signal is a mixture of many component signals obtained from various instruments and the vocals. This mixture signal can be broadly classified based on how they lie in the complete signal span as low rank components (instrumental) and sparse components (vocal). The problem tackled in this project is, how can these two components be separated efficiently using some of the available techniques which are discussed. One such technique, Robust Principal Component Analysis, is executed here. In this process, first the Short Time Fourier Transform of the audio signal is computed which gives result in matrix format. The goal is to minimize the matrix using definition of Robust Principal Component Analysis. In order to achieve the minimization, an algorithm called Augmented Lagrangian Multiplier method (ALM) is used. The output of the algorithm is the low-rank component and sparse component. The obtained result when converted to time domain, two audio files are obtained. Quality of these audio files is based on the energy ratios that can be obtained in the form of parameters like Source to Distortion Ratio (SDR), Source to Interference Ratio (SIR), and Source to Artifacts Ratio (SAR) where source represents individual ground truth which forms the dataset. The dataset used here is MIR-1K dataset.	DR RAVINDRA CHAUDHARI
21	1625	BHAT,AKSHATA, GHORPADE,REVATI, NAIK,SHRUTI	REDUCTION OF NOISE CONTENT IN VIDEO SIGNALS	EXTC	2018	Elimination of noise content from the video signal is one of the fundamental operations to be performed in order to enhance the quality of the video signal. Videos, being a series of frames, transmitted	MR VAQAR ANSARI

continuously at a specified rate depict the motion of an object by virtue of persistence of vision of the human eye possess strong correlation between pixels of the neighboring frames, as well as adjacent pixels in the same frame. Thus, in order to determine the position of pixels in the frames, distance calculation is necessary.

Unlike the commonly preferred Euclidean Distance Method or the City Block Distance method, the Quaternion representation involves estimation of the color difference in the RGB color plane. This along with the luminance differences are combined to obtain the distance between two pixels in the neighboring frames. These Quaternions are the vector representation of pixels in the 4D plane, but its application in this implementation is limited to the RGB plane. This along with the luminance differences which are calculated based on the intensities of the pixels are combined to obtain the distance between two pixels in the neighboring frames.

Denoising the frames affected by impulse noise is achieved by the applying threshold to the contaminated frames whose color distance is calculated by the proposed method. The pixels declared noisy on this basis are eligible for further processing while the noise-free pixels remain unaffected. For the treatment of the noisy pixels, median filter in 3D space is applied along with the concept of weights whose assignment depends on the proximity of the neighboring pixels from the current

						one. Further, criteria like PSNR and MAE are computed to determine the accuracy of the obtained results.	
22	1647	PARULEKAR AAKASH, SEBASTIAN SANCHEZ, PATRICIO, MICHAEL PERIS AURELIUS	DROWSINESS DETECTION	EXTC	2018	The main aim of the project is to develop a non-intrusive system which can detect fatigue of the driver and issue a timely warning. Since a large number of road accidents occur due to the driver getting drowsy, this system will help in preventing such accidents, thus, also preventing loss of money, property and, possibly, life. This system will monitor the driver's eyes using a camera and by developing an algorithm, we can detect symptoms of driver fatigue and alert the driver well before an accident can occur. The system will capture the driver's image before the journey and will compare this image with the current captured frame. The difference in the images can be used to detect if the driver is drowsy. This project will, therefore be helpful in detecting driver fatigue in advance which can be used to give a warning output in the form of sound and light.	DR GAUTAM SHAH
23	1635	RAO, DRISHTI, SURESH, ROHAN, ROSARIO, STEFEN, SW APNIL, SAMANT	IMAGE RESOLUTION ENHANCEMENT USING DEEP LEARNING(	EXTC	2018	The purpose of this proposed work is to produce an image of higher quality with higher resolution compared to the original input image, using Super Resolution technique for Deep Learning. Deep learning is a standard machine learning model which needs to be taught to make an accurate prediction based on the given inputs. Deep learning enables the computer to resolve this task by breaking the desired complicated mapping into a series of nested simple mappings, each described by a different layer of the model. In recent years, supervised learning with	DR RAVINDRA CHAUDHARI

					convolutional neural networks (CNNs) has seen huge adoption in computer vision applications. Comparatively, unsupervised learning with CNNs has received less attention. The aim of the project is to create a convolutional neural network to obtain a super-resolved image from a single input image. The model thus built shall perform an end-to-end mapping between the low and high-resolution images. It will be based on a convolutional neural network (CNN) that takes the low-resolution input image and produces the high-resolution output image. The network shall be extended to cope with three color channels simultaneously and show better overall reconstruction quality.		
24	1639	PRABHU,KAUSTUBH, RATHORE,PALLAV, RODRIGUES,SHAUN,S ATGOUDA,GAUTAMI	GENERIC DUAL BAND IMPEDANCE	EXTC	2018	To block unwanted signal or interference, to improve the overall circuit performance, remove spurious response and to enhance selectivity, an impedance transformer with an inherent and selectable transmission zero is synthesized. The considered load has unequal complex impedances at two uncorrelated frequencies. To implement the required impedance transformer, a transmission line, two shunt stubs and an N stage T network are used. The parameters of the transmission lines and stubs are so chosen that neither extremely high nor extremely low values will be obtained. The use of a well-designed T network improves the low-frequency impedance bandwidth. The dual-band transformer with a transmission zero has been fabricated on an FR-4 substrate and tested using a Vector Network Analyzer.	MR INDERKUMAR KOCHAR

25	1627	GIRMAL RUTUJA, KAMAT JITALI, MARTAL SAYAL,NAIR POOJA	MUSIC EMOTION RECOGNITION USING ACOUSTICNGAUSSI AN MIXTURE MODEL	EXTC	2018	Music conveys emotions/moods and arouses them in the listener which is why it is fascinating for people across the world. The music libraries have grown immensely and are easily available due to their digitization in recent times. This has led to a rapid increase in the music information retrieval research for automating systems in order to search and organize music and the related details. Common ways for search and retrieval are using genre or artist for sorting of songs which is easier to quantify and hence received more recognition in music information retrieval. In this work, we describe a generative approach for modelling music emotion while concentrating specifically on the valence-arousal (VA) dimensions of emotion. This generative model, called Acoustic Emotion Gaussians (AEG), considers the subjectivity of interpretation of emotion in a better manner by using probability distributions in the valence-arousal space thus making it possible to customize an emotion based music information retrieval system. It generalizes the mapping of music to emotion. The model can also incorporate additional details such as user feedback using adaptation techniques. It learns a collection of latent feature classes from the available data to connect the acoustic and the affective Gaussian Mixture Models that are associated with the acoustic and the emotion spaces respectively. The entire process is easy and straight forward. It involves light-weight computations for prediction of emotion and hence can be used in real time for analyzing the	MR SANTOSH CHAPANERI
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						distributions of an audio. Thus, this framework can be used for various applications including both general and personalized recognition and music retrieval systems based on emotion.	
26	1616	BHATT,UMANG, DHURU,VIRAJ, FERNANDES,ROCHEL LE	TRUTH DISCOVERY USING GAUSSIAN TRUTH MODEL	EXTC	2018	In this era of big data, the online user generated content grows exponentially. This data is generated through a variety of channels such as social networks, blogs, etc. The data could be regarding anything from price, votes, height of Mount Everest, etc. An important feature of this data collection is its wide variety i.e. data about the same object can be collected from a variety of sources. Also the data could be from spammers or other faulty sources. For example, the top search results returned by Google for the query 'the height of Mount Everest' include '29,035 feet', '29,002 feet', '29,029 feet' and so on. Among these pieces of noisy information, which one is more trustworthy or represents true facts? Unfortunately, there is no guarantee for the correctness of the information obtained. To tackle this problem, truth discovery i.e. identification of true values is vital. Hence, we implement a truth discovery algorithm to find the true values from conflicting sources. Based on Bayesian probabilistic model, we implement Gaussian Truth Model (GTM) which considers the dependencies among source quality, truth and claimed values. Results obtained for the datasets show that our algorithm works better than existing methods.	DR DEEPAK JAYASWAL

27	1617	KARUVANKANDY DHIKESH, MENON SHREYAS, MOLANKAR MANOJ, GUPTA SHYAMSUNDAR	COVER SONG IDENTIFICATION	EXTC	2018	Interest of people in music has been increasing tremendously since ages and the scenario remains the same even today. More and more people have found and acknowledged their love towards music and have contributed a lot towards the development of Music industry. A recent trend has started of singing covers to the original music. "Cover song" is the generic term used to denote a new performance of a previously recorded track. For example a cover song may refer to a live performance, a remix or an interpretation in a different music style. Love for cover songs have increased as people sometimes find it better than the original track. Our project aims to identify the cover songs available for every track by calculating distance between them. We intend to study the use of DTW for calculating distance and check for its Precision and Accuracy. To improve the Precision, Accuracy and Time complexity we use SiMPle (Similarity Matrix Profile). We first divide songs into subsequences and then find distance between them using MASS (Mueen's Algorithm for Similarity Search) which is the fastest known technique to calculate distance. It makes use of 'subsequence similarity join' which significantly reduces the computational time and provides better results.	MR SANTOSH CHAPANERI
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28	1571	THAKER MEHEK, PARIKH MIHIR, SHETTY PREETIKA,NEOGI VINIT	DETECTING PHISHING WEBSITES USING DATA MINING	INFT	2018	<p>Phishing is one of the major cyber threats now, where the victims credentials are taken by an illegitimate website. The illegitimate website appears to be the legitimate one and the URL matches very closely with that of legitimate website. Bigger attacks like Ransomware are also triggered by the Phished URLs itself. So, to prevent Phishing attack, it is important to detect such phished URLs at an early stage. The proposed system detects phished URLs using Data mining. This approach is different from the Blacklist approach, where the website is predicted as phished or safe based on its past 20 behaviours. The proposed system can detect newly generated phished URLs as well, which have completely no past behaviours to judge upon. A cloud based model will be generated for the same. Various attributes from the URL like URL length, SSL status, DNS record, having IP address, etc. are extracted. The model will be trained with various samples of URL attributes and this model will be deployed on the cloud. The training of the model is done using Random Forest Classifier. The URL visited by the user will be broken down into various attributes using Chrome extension and these attributes will be tested through the model. After testing, the model predicts the URL as phished or safe and gives a prompt to the user regarding the same through Chrome Extension.</p>
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29	1572	DABHI AKASH, MAKWANA NACHIKET, MASURKAR ARCHIT, NARKAR SARVESH	DETECTING DIABETIC RETINOPATHY CATEGORY FROM RETINAL IMAGES USING DEEP CONVOLUTION NEURAL NETWORKS	INFT	2018	Diabetic retinopathy is a condition that occurs in people who have diabetes. It causes progressive damage to the retina, the light-sensitive lining at the back of the eye. Diabetic retinopathy is a serious sight-threatening complication of diabetes. Our project is Determining the Diabetic Retinopathy Category from Retinal Images using Deep Convolution Neural Networks. Our proposed system can be used for early detection and diagnosis of Diabetic Retinopathy and prove beneficial, for those affected. Our objective is to create a model that would take a pre-processed retina image as input and output whether or not it has stage 4 diabetic retinopathy. Currently, diagnosing DR is a slow and arduous process that requires trained doctors to analyse colour photographs of retinas. This model will facilitate the removal of the ambiguous diagnoses done by the ophthalmologists. This task will be done by using one of the pre-trained models- Inception V3 model which is ageneral object classification model to be used specifically for our task. This will be done using transfer learning and retraining the top layers of the model.	DR VAISHALI JADHAV
30	1578	DEDANIA YASH, HEBBAR TUSHAR, KABANI MIHIR, KUBAL AKHIL	DISSOCIATED SWARM	INFT	2018	Swarm Intelligence deals with the coordination of decentralized, self-organizing multi-robot systems which emerge from interactions between the robots and interactions of the robot and its environment. Bots in Swarm Intelligence are hardcoded to do a particular task. They coordinate with each other and perform a specific work. We propose a swarm model where the microbots present in the swarm are not	MRS AMRITA MATHUR

						<p>coded to perform a particular task, rather various computer vision techniques combined with machine learning and artificial neural network algorithms can create robots that can observe the swarm and learn the tasks they are performing. With self-learning on the rise, we have proposed algorithms for unsupervised learning of robots which work efficiently. We state the idea, working and the algorithms used for swarm intelligence and the most optimum algorithms that can be used for our idea, Dissociated Swarm.</p>	
31	1582	FERNANDES,ARCHIN, GORADIA,JAY, GONSALVES,ROSHAL L,GUPTA,VIJAY	IN-STORE LOCKER SYSTEM OVER IOT	INFT	2018	<p>In today's fast paced lifestyle with both the partners working, it becomes dicult to take out time for normal everyday shopping. Simple daily chores like shopping for groceries, vegetables, bakery, stationery, medicines are a task in itself. With the residences shut during the day, even accepting home deliveries, online parcels, courier services, etc. becomes a challenge. It results into accumulating these tasks on weekends making life more stressful, leaving very little time for oneself and family. Considering the growth in the world of e-commerce and increasing connectivity using IoT, we came up with the In-store locker system which will give a better shopping experience reducing the stress. This system is an android based application for users to buy commodities online from various stores. A third party will collect the commodities from the shops on behalf of the user and have them deposited in the locker. The lockers will be located at various parts of the city and the users can collect the commodities from the locker placed in their locality. This</p>	DR PRACHI RAUT

						application saves time, is convenient to use and is cost efficient.	
32	1577	KUMBHAR,PRIYA, GUNAJI,SIDDHI, DHARASHIVKAR,VAI BHAVI,JAWRE,SAYA LI	GESTURE TO SPEECH CONVERTER FOR THE VERBALLY IMPAIRED	INFT	2018	Verbally impaired people around the world make use of sign language for communication. Sign gestures are a form of a non-verbal method of communication that has fixed mapped tables of gesture with its meaning. But it is often very difficult for the verbally impaired to communicate with normal people. The project aims to develop a hardware device which will convert the non-verbal gesture into speech. The gesture to speech system has been developed using sensor-based gloves and an Android application. The glove is embedded with flex sensors and Inertial Measurement Unit (IMU). The android application is used for generating speech output.	MRS MRINMOYEE MUKHERJEE

33	1757	CHOVATIYA,MEGHA, DEOKAR,JAYITA, DHAMELIYA,ANUSH KA,GONSALVES,JESS ICA	PREDICTION OF EPIDEMIC DISEASE USING RECURRENT NEURAL NETWORK	INFT	2019	India and various developing nations where the population is high, healthcare is one of the major challenges to deal with. The medical resources that are made available by the government cannot cope up with the high population. The rural areas are affected the most due to lack of a proper medical infrastructure by public health sector. A large chunk of population cannot afford private hospitals as they belong to lower middle class or below poverty line group. Therefore, the load on public health sector has increased manifold. In case of an epidemic, the death rate is high as most of the population have no access to medical resources and thus timely treatment. As a large chunk of population of our country lives in rural areas, it becomes a dire need to arrange for a proper medical infrastructure in case an epidemic occurs. Dengue being one of the most occurring epidemics in our country as well as the reason for a high fatality rate, needs to be predicted well in future so that medical resources can be arranged on time and thus reduce the fatality rate. Although dengue does not require a specific line of treatment or prolonged, it is essential to be detected and treated on time. Our system aims at predicting epidemic (dengue), so that the health sector can arrange for necessary resources before time. The system will make use of Recurrent Neural Network for prediction. Data used for prediction will include the climatic conditions, pollution and the statistics of patients diagnosed with dengue in the previous years. The data has been taken from various government websites. The model will	MRS AMRITA MATHUR
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						learn using this data and predict the possibility of an outbreak if similar climatic conditions occur in future. The result of the possibility of an outbreak will be shown by graph in website.	
34	1779	PAWAR,SHRADDHA, MURDESHWAR,MON ESHA, PEREIRA,REMON,RA UT,SAHIL	ARCHITECTS:AMA RKER-LESS AUGMENTED REALITY APPLICATION FOR INNOVATIVE MARKETING OF ARCHITETECT'S PORTFOLIO	INFT	2019	India and various developing nations where the population is high, healthcare is one of the major challenges to deal with. The medical resources that are made available by the government cannot cope up with the high population. The rural areas are affected the most due to lack of a proper medical infrastructure by public health sector. A large chunk of population cannot afford private hospitals as they belong to lower middle class or below poverty line group. Therefore, the load on public health sector has increased manifold. In case of an epidemic, the death rate is high as most of the population have no access to medical resources and thus timely treatment. As a large chunk of population of our country lives in rural areas, it becomes a dire need to arrange for a proper medical infrastructure in case an epidemic occurs. Dengue being one of the most occurring epidemics in our country as well as the reason for a high fatality rate, needs to be predicted well in future so that medical resources can be arranged on time and thus reduce the fatality rate. Although dengue does not require a specific line of treatment or prolonged, it is essential to be detected and treated on time. Our system aims at predicting epidemic (dengue), so that	MS SONALI VAIDYA

					the health sector can arrange for necessary resources before time. The system will make use of Recurrent Neural Network for prediction. Data used for prediction will include the climatic conditions, pollution and the statistics of patients diagnosed with dengue in the previous years. The data has been taken from various government websites. The model will learn using this data and predict the possibility of an outbreak if similar climatic conditions occur in future. The result of the possibility of an outbreak will be shown by graph in website.		
35	1759	DABRE,CAMILLA, JUDITH,JEROME, CHAVAN,PRASAD,CH OHAN,TABASSUM	GENERATION OF 3D RETINAL MODEL FROM OCT IMAGES	INFT	2019	Human Eye is the most complex sensory organ comprising of a multitude of substructures. Retina, a mere set of tissues and one third of a millimeter in width, consists 10 layers. The deformities in these retinal layers account for many dis-eases related to vision such as retinopathy, age related macular degeneration, eye caner, retinal detachment and inherited retinal degenerations. Two major type of imaging techniques which are being used for analysis of retina are digital fundus images and Optical Coherence Tomography (OCT). OCT scan is a mean of ex-tracting the information about the inner retinal layers non-invasively. OCT scans provided a video with multiple frames, each of which corresponds to a slice of eye (retina). The purpose of this project is to make a 3D model of retinal layers captured through OCT scans to provide a better visualization of retina to ophthal-mologists. There are two main parts of project which include image processing module and graphics. The frames gathered from OCT scans are	MRS MRINMOYEE MUKHERJEE

						processed using image processing techniques to extract the details of the layers in the form of co-ordinates. Once the coordinates of all the points are extracted a point cloud is formed. Using this point cloud, a three dimensional model using these points is regenerated.	
36	1760	JHAVERI,SIDDHARTH , KANTHARIA,YASH, JOSHI,SHUBHAM,KH EDKAR,ISHAN	KICKSTARTER SUCCESS PREDICTOR	INFT	2019	The internet has become a popular medium for crowdfunding campaigns, aimed at raising money from large numbers of contributors. Kickstarter is one of the most popular a crowdfunding platforms on the internet. The main purpose of the project is to generate the closest and accurate probability for an ongoing Kickstarter crowd-funding campaign before it starts its funding. Our proposed system efficiently identifies success of a particular campaign. For this major features of a campaign would be considered such as duration, category ,country, state, city, name length, blurb length, currency and goal in USD. User can interact with the system through a very simple GUI. We implemented different algorithms such as Random Forest, XGBoost, AdaBoost and CatBoost. We inculcated the CatBoost classifier into our application as it has the best accuracy of 83.33% and computes at a much faster rate compared to other classifiers.	MRS SHREE JASWAL

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37	1790	RAGHAV,NIRANTAK, SHAH,HET CHETAN,SHETH,MAN AN PRAKASH,	PARKEZ,PARKING MANAGEMENT SYSTEM	INFT	2019	Traffic has always been a serious issue in metropolitan cities. Adding fuel to the fire, the improving standard of living, has led to people purchasing more private vehicles. The most frustrating thing while driving is finding an open parking space for your vehicle. Due to this, people park their vehicles along the roadside or in no parking zones, which lead to traffic and towing.As a solution to this government has established public parking spots at various places. However most of these places are underutilized due to lack of awareness. Parkez is a platform that aims to solve this problem by providing an accessible application to users, and ease of management for parking space providers. This platform allows you to book a parking spot by leveraging both public and private spaces, thus reducing roadside parking that causes congestion and also protects the vehicle from damage or theft.Hence such an application which will be a win-win situation, as the government will be benefited by reduced peak hour traffic, the parking lot usage increases, and the vehicle owners are assured of the safety of their vehicle	DR NAZNEEN ANSARI
38	1700	RAMESH,SAWANT SHRUTI, RAJ,SHARMA ANKITA, GOPAL,SUVARNA GEETA	CHARACTER RECOGNITION OF MODI SCRIPT	CMPN	2019	Traditional Devanagari was found to be excessively time-consuming since each character required as many as 3 to 5 strokes and lifting of the hand, each time the stroke was completed. Modi script overcomes this obstacle by “bending” the letters thereby doing away with the need of lifting the hand. Modi script was invented as cursive “shorthand” to note down the royal commandments. Many historical	MRS SNEHAL KULKARNI

						documents and letters are written in Modi script. Study of Shivakalin and Peshvekalin era documents is almost impossible without the knowledge of Modi script. This work aims to bridge the gap between Devanagari and Modi Script by developing a system to map the recognized Modi characters to its Devanagari equivalent. Our dataset would consist of 46 different classes of Modi Script characters. The various approaches for feature extraction usually used include moment invariant, affine moment invariant, chain code histogram, intersection junction and for character classification include SVM and KNN classifiers. Deep Neural Networks on the other hand do not require any feature to be explicitly defined, instead they work on the raw pixel data to generate the best features and use them to classify the inputs into different classes. Hence, we propose a deep learning architecture for character recognition. CNN uses little pre-processing compared to other image classification algorithms. This means that the network learns the filters which in traditional algorithms were hand-engineered. The system aims to provide a good recognition rate by implementing CNN.	
39	1701	GAJERA,KISHAN, JANGID,MUKUL, MEHTA,PALASH	PHISHING AND PHARMING DETECTION USING MACHINE LEARNING	CMPN	2019	Phishing is the most common yet a major cyber crime. In this fraudulent practice, the perpetrator sends an e-mail to the target posing as a legitimate organization. This email contains a URL link to the phishing website which the user is prompted to visit and is induced to reveal private information, such as passwords, card numbers, etc. The plot of this attack	MRS JAYASHRI MITTAL

					<p>is that the phishing website appears exactly the same as that of the legitimate one to avoid any kind of suspicion. However, the URL features of both websites are different. These differences can be a strong basis for classifying a phishing website accurately and effectively. In our research, we identified fifteen such important URL features for phishing detection. All these features were extracted from our dataset consisting of phishing as well as legitimate website URLs. The resulting preprocessed dataset was then trained using Artificial Neural Networks(ANN), Support Vector Machine and Logistic Regression. Artificial Neural networks fetched the highest classification accuracy so it was implemented it in our model. Pharming is a special type of phishing attack or DNS poisoning in which the user is redirected to a fake website by changing the IP address at the DNS server. For pharming, dual step analysis is performed (IP address check and web page content comparison). First, local DNS and the reference DNS are queried to check if they return the same IP. If not the case, image visualization is implemented to compare the webpage between the two. If they are not the same, we conclude that pharming is present. We have developed a Google Chrome plugin that simultaneously checks for phishing and pharming attacks respectively using the stated models. Even if any one the two attacks are detected by the system, the user is warned for the same. Thus, we strive to provide overall protection to the user from such cyber-attacks.</p>
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40	1703	PURANIK,PRANAV, SANKHE,TANMAY, SINGH,AVINASH,VIS HWAKARMA,VIKAS	AIR NOTE-PEN IT DOWN	CMPN	2019	Writing is a mode of coherent communication which can effectively convey our thought. Today, typing and writing are the usual modes of recording information. Another technique that is rapidly gaining popularity is air-writing. It refers to writing characters or words in free space using an air-pen or a finger. It differs from conventional writing methods as there is no pen-up and pen-down motion. With the evolution of smart wearables, the digital world can now be controlled with human gestures. These wearables are capable of perceiving and comprehending our actions. Our project capitalises on this need gap, by focusing on creating a motion-to-text converter that would potentially act as a software for the smart wearables for air-writing. This project is a point gesture detector-cum-identifier. We will use computer vision to trace the trajectory of finger and machine learning to recognize the word (out of the image that is formed through the action of motions). This will make air-writing possible. The generated text can be further be used for various purposes such as sending messages, mail, etc. It will prove to be a powerful communication tool for those with hearing difficulties. It will be an efficient way to communicate and will reduce the usage of mobile phones as well as notebooks, thereby making the actions of writing and texting redundant.	MRS PRADNYA RANE
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41	1708	MAVANI,UMANG, PEDNEKAR,ADITI, SHINDE,DEVASHRI	TEXT SUMMARIZATION AND QUERYING MODEL	CMPN	2019	Learning skills play a very important role to build student's foundation for a language. It not only becomes difficult for students to analyze the important information available in an extensively lengthy passage. Our proposed system focuses on helping students in developing their skills by understanding passages in their textbooks through text summarization and question-answer module. The main idea is to save a potential amount of time and effort of readers in finding valuable information in a given document. Also, the question and answer extraction help one to understand a passage in much depth. So we developed a model which simplifies the task of understanding the passages primarily focusing on History Textbooks passages of Secondary School Certificate (SSC) Board Maharashtra State that consists of facts and figures by combining the Text Summarization Module with Question Answer Module that provides benefits to both students and teachers.	MRS SAFA HAMDARE
42	1715	COLACO,ROSAL,FER NANDES,ELVITA VALERIE,JADHAV,RU ANA,	A CHESS COMPANION(	CMPN	2019	If you are looking for a way to test your mind, well, we have just the game for you - 'Chess'. But here is the twist, the pieces move on their own. By voice commands, you give commands to the system and the piece moves. We present to you A Chess Companion, the complete chess game irrespective of age and gender and to top it all even people with physical disability can play. We bring to you an ancient game, but with magical powers. There have been many systems that have been invented over the years for Chess. But, they had their own shortcomings. The	MRS PRADNYA RANE

				<p>existing systems do not provide an entire hands free playing atmosphere. This causes a problem for those players who are old by age but young at heart. Also, people with physical limitations like the visually impaired, motor disabled, etc. cannot play this game without proper training and help. This made us realise the importance of a system which not only provides various features to those people with physical disability but also to everyone who are interested in the game of chess. A Chess Companion is the game of the future, where one can learn and play chess. This bright innovation gives you an experience of Wizard's Chess, exactly like the one from Harry Potter. With various features of Voice Commands, Speech Biometrics and Automated movement, there could be no better way to play this game. This board gives you the experience of playing the game like a Wizard, wherein the pieces move automatically. You can choose your opponent - A player face to face, a person who you can connect to over the server or the board itself! It is platform to help motivate all the people in the world who know the intriguing game of chess and also generate an interest to learn it. We provide a platform as an equal because we strongly believe in equality in sport.</p>	
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43	1716	BARANWAL,VIVEK, BHAKTHA,AMEYA, CHAUHAN,SAHAD,C HAWDA,AJAY	IMAGE ZOOMING USING FRACTAL TRANSFORM	EXTC	2019	Image zooming is a technique of producing a high resolution image from its low-resolution counterpart, which is often required in many image processing tasks. It is one of the important aspect of Image Enhancement, because of its widely used application including the World Wide Web, digital video, and scientific imaging. In this project, a very different technique for image zooming called fractal transform is proposed. The proposed method provides better image zooming in comparison with the other standard interpolation techniques, since fractals are recursive and self-similar mathematical figure. This technique makes use of affine transform and block matching algorithm which converts different blocks of image into fractal code, to reconstruct a zoomed image. Although it being a compression technique, the compressed image can be used for zooming since fractal transform has a resolution independent property. Also since fractal compression is a lossy technique, which can be seen in the zoomed image, so to overcome this loss we researched and developed an algorithm that uses Overlapped Range Block partitioning (ORB).	DR RAVINDRA CHAUDHARI
44	1722	KUDVA,VIKRM, MAINKAR,SHARVIL, KUMAR,VIKRANT,M ONTEIRO,GLEN	ROBUST SPEAKER VERIFICATION	EXTC	2019	Speaker Recognition (SR) is the process of automatically recognizing the person speaking on the basis of the information obtained from the speech features. SR process involves Speaker verification (SV) and Speaker Identification (SI). Automatic Speaker verification (ASV) is the process of authenticating the true identity of the speaker. ASV is generally accomplished in four steps. The first step	DR DEEPAK JAYASWAL

						is the digital speech data acquisition. In the second step, feature extraction and feature selection are performed. The third step involves clustering the feature vectors and storing in a database. Decision-making through Pattern matching is the last step. The importance of feature vector extraction, selection and normalization are also discussed.	
45	1724	MENON,ANJALI, MISTRY,DHURA, NAIK,SAYALI,MHAS HETE,ISHA	DEEP LEARNING FOR RECOGNIZING FASHION ACCESSORIES	EXTC	2019	In this project, classification of Fashion Accessories is done using CNN-Softmax and CNN-SVM. We have compared the CNN-Softmax model and CNN-SVM model for comparative analysis. In case of CNN-SVM model, it uses hinge loss function instead of the traditional Softmax Activation function followed by the cross entropy loss function. Result analysis was performed on both the models for classification of both MNIST and Fashion-MNIST dataset. Accuracy of almost 99% was observed for both the models in case of classification of MNIST Dataset, and in case of classification of Fashion-MNIST dataset accuracy of 91% was observed	MR SANTOSH CHAPANERI
46	1732	KARMAKAR,PRANA V, KHARE,AADITYA, SUNIL,KARTHIK	DRONE VISION FOR 3D IMAGE CONSTRUCTION	EXTC	2019	Detailed study and analysis of artifacts from archaeological sites and historical monuments become difficult, perhaps even impossible, due to access restrictions on the common man. In such cases, by using a 3D model of the object, it is easy to examine the geometrical intricacies of an object in question. Our project involves taking such an object and having a drone encircle it, capturing several images of it from various angles. A 3D Image of the object will be generated from these images.	DR GAUTAM SHAH

47	1752	RAO,RAHPAWAR,NEHAUL, PATEL,VISHAL, PATIL,ANKUSH,	DESIGN OF ULTRA WIDE BAND MULTIPLE INPUT MULTIPLE OUTPUT ANTENNA	EXTC	2019	This work focuses on the design of an Ultra-Wide Band MIMO antenna for wireless communication. UWB antennas offers bandwidth of 7.5GHz (3.1-10.6 GHz) with 110% of center frequency. It is the largest spectrum allocation for the unlicensed use by the Federal Communications Commission. The proposed antenna comprises of a circular radiating patch and a micro-strip feed line printed on the top layer of the substrate, while the ground plane with a corner reflector and L-stub are printed on the bottom layer. Our work focuses on to make this monopole antenna design into MIMO with low mutual coupling and several mutual coupling reduction techniques have been proposed to achieve high isolation. MIMO antennas have gained considerable amount of attention of many researchers since it's a compact antenna supporting various communication standards simultaneously. However, this compactness leads to mutual coupling which is a major concern in designing a MIMO antenna.	MRS JOVITA SERRAO
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48	1807	MISHRA VISHWAJEET ARVINDKUMAR SHAIKH MOHAMMEDHASAN MUSA SHARFOO SHAH MEET JAYESH ASHITA	DECENTRALIZED CLOUD STORAGE USING BLOCK CHAIN	INFT	2020	Blockchain is a system of decentralized digital lists, or ledgers, containing records referred to as "blocks". Blocks hold information in a secure, transparent, and permanent way that everyone can access. It originally came about to record transactions done using the first cryptocurrency, Bitcoin. Decentralization allows for complete transparency in all shared information. Furthermore, the network hosting of the information is impossible to tamper with. Rather than passing information back and forth, swapping ownership each time, everyone essentially owns it, and can access it, simultaneously.	Ms. Grinal Tuscano
49	1808	PADIA, KARNIKA,SHAH VENNIS,DESAI, DEVI	TRADE FINANCE USING BLOCKCHAIN	INFT	2020	Trade-financing refers to the financing of the exchange of commodities, finished goods and raw materials. It is a centuries-old industry valued at more than \$10 trillion USD. The trade-finance industry hasn't seen any significant change over the past decade despite the explosive global trade growth. There are many parties involved in a typical trade transaction. Banks, shippers, importers, exporters, regulatory bodies and the customs officers. These parties each act as a key verification point on the supply chain. Each of them plays a vital role in completing the transaction and any fault at any of these verification points would cause a	Ms. Purnima Kubde

						<p>delay/complete voiding of a transaction. Each party faces different pain points in the trade financing process. Trade financing today is still a very paper-based business. The absence of electronic and digital processing means that typically a trade financing transaction would rely on a long paper trail and hence a prolonged process of document exchanges.</p>	
50	1809	<p>NANDANKAR PRITI BABAN REKHA TRIVEDI BINA DINESH NEETA SINGH ANJALI BRIJENDRA BHARATI \\</p>	<p>PERFORMANCE EVALUATION OF DATAMING ALGORITHM</p>	INFT	2020	<p>Data mining, now a day, is the most important field of computer science and it deals with the process of extracting information from a data set and transforming it into an understandable structure for further use. Data mining is also called Knowledge discovery in databases. It is used to define knowledge from data collected by the system. Data mining consists of various steps ranging from understanding the project and identifying multiple techniques for implementing the project. These techniques help in mapping results which can be used for problem solving. Data mining consists many techniques i.e. Tracking Patterns, Classification, Regression, Association, Clustering etc. Tracking Patterns is One of the most basic techniques in data mining is</p>	Dr. Nazneen Ansari

						<p>learning to recognize patterns in data sets. Classification is supervised learning technique, it identifies the model that describes and distinguishes data classes and concepts. Regression algorithms are used to predict numeric values i.e. continuous values. Regression is different from classification as it is used to predict continuous values while classification is used to predict discrete values. Clustering is an unsupervised learning technique. It is the process of making a group of abstract objects into classes of similar objects.</p>	
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51	1814	KARKAL PAWAN SUDHIR PRIYA JAMSANDEKAR TANVEE KARUNESHWAR LEENA GOVEKAR RONEEL VIVEK NAMITA	SMART TRAFFIC SIGNAL AND MOTERBIKE SAFETY	INFT	2020	<p>Current word population is over saturated. It is affecting financial and ecological aspect of every developing country. If we keenly observe the daily life of citizens, most of them are facing issue with traditional traffic management method. Traffic tends to grow due to predefined traffic signal and emergency vehicles end up reaching their destination late due to traffic jam. Thus, there is a need to handle traffic jams based on current vehicular traffic density and prioritize passage of emergency vehicles. In the proposed Smart Traffic Signal, we have used new technology to manage vehicular traffic jam in order to reduce traffic congestion. We have used Ultrasonic sensor to measure vehicular traffic density and Radio Frequency Identification tag and reader to detect the presence of an emergency vehicle. Their inputs are provided to the microcontroller. Green signal time allocation is generated for every lane as per their respective traffic density. If an emergency vehicle is present near the traffic signal junction, then green signal is set on for the respective lane and then regular traffic management is executed. If no emergency vehicle is present near traffic signal junction, then regular traffic management is executed. In case of high</p>	Ms. Grinal Tuscano
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					<p>traffic, RTO agent is alerted through android application. Number of deaths or severity of damage in case of motorbike accident is more in absence of helmet. We cannot ensure motorbike rider's safety just by charging them penalty fees. We require a motorbike inbuilt mechanism to make sure that the motorbike rider is not allowed to start his or her engine unless he or she has worn and buckled the helmet. In the proposed Motorbike Safety, we have used temperature sensor to detect rider's body temperature and push button as buckle. First, we check if user has inserted motorbike key. If the condition evaluates to be true then second condition is checked. If the detected body temperature of the rider lies in the pre-defined body temperature range, then final condition is checked. If the buckle status evaluates to be true, then the mechanism allows to start the engine. If any condition evaluates to be false, mechanism does not allow to start the engine. Even after the engine has started, previous conditions are checked after interval of time. If all conditions evaluate to be true then the engine continues to be on, if any condition evaluates to be false, the engine is commanded to stop.</p>	
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52	1849	FERNANDES BREEZEM MICHAEL	INTEGRATING DIFFERENT DATA MINING ALGORITHMS FOR GAMING INDUSTRY	INFT	2020	<p>The gaming industry has now become one of the most important field in case of revenue generation. With the advent of mobile gaming and improvements to hardware used in playing games, gaming has become a feasible shape of amusement for gamers from all regions and ages. The gaming industry is an emerging industry in cutting-edge world. Games are played internationally on various platforms like mobiles, computers, and consoles. These games generate superb quantities of information. This gaming statistics may be used to carry out mining operations and for this reason generates results that can help in improving the overall gaming industry. Game telemetry is facts logged from clients or servers about how players play games, or conversely approximately how the sport client itself responds to player behavior. Analysis of telemetry information can be finished by making use of game facts mining tools and the outcomes may be used to classify gamers who play positive games, their behaviors in the sport, and their recreation play patterns. This project aims to apply data mining techniques like Association, Classification and Clustering on game telemetry data. Algorithms like Apriori, Support vector machine, Random forest and hierarchical clustering are used</p>	
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					<p>to perform analysis on game telemetry data. The results obtained from these algorithms then can further be used to improve various features of games like game marketing, game life, game design improvement and game stickiness. The analysed data then can be fed to decision making support systems to improve the overall gaming quality of the use. In the project, Apriori algorithm is used to improve the game life feature of games, Support vector machine and Random forest algorithms are used to for targeted marketing i.e. improving the gaming marketing feature of the game and hierarchical clustering single linkage algorithm is used to improve the game design factor of games.</p>	
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53	1877	HARSH/JALAN/ SUNNY/DSOUZA/ GAUTAM/ MAURYA/ CANUTE/CORDA	SUSPECT FACE GENERATIONUSING GANs	CMPN	2020	<p>Currently sketch artists are employed by the police to draw sketches of suspects based on the description given by an eye-witness, these sketches can sometimes be inaccurate due to incorrect drawings of the artist or the incorrect description given by the witness. GAN is short for Generative Adversarial Network which is a way of training a Neural Network to output images which belong to a specific class. This network is trained by making it compete with another network which predicts whether the image made by Generative Network is enough to qualify as real. In order to generate high resolution images, PG-GAN is used. TL-GAN is used to generate image based on latent-space input obtained from the input features. This alteration is made using TL-GAN. TL-GAN offers users the ability to gradually tune one or multiple features using a single network. The main objective of our project is to develop a Suspect Face Generation System as the sketches made by sketch artists are only 13 out of 160 times (approx. 8%). This Face Generation System can be used by military, police and government organizations to generate images of suspects or individuals. This system will help the society in reduction of</p>	Ms. Dakshata Panchal
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						misidentification of crime suspects. It will also considerably reduce the crime rate.	
54	1879	VINIT/MASRANI/ ARBAZ/KHAN/ ANOOP/OJHA	VERA:AI CARRER COACH	CMPN	2020	Unemployment and Unemployability are one of the biggest issues in India. The report reveals that 80% of Indian engineers are not fit for any job in the industry. Currently there is no standard and proper resource which can prepare an individual pertaining to industry requirements. Career guidance encompasses assisting individuals with career development. It includes help with career choice, job search, and career advancement. There has been an increasing hype and usage of chatbots now a day. If chatbots are used as career assistants which can guide an individual to the right track then this will motivate people to learn and	Ms Safa Hamdare

						acquire new skills. Currently there is no standard and proper resource which can prepare an individual pertaining to industry requirements. So, this project will help develop standard platform where users can get all the career related queries solved and also resources needed for industry. VERA is built with the aim to leverage the latest technologies to help job seekers, career aspirant and tech enthusiastic to realize their dream. VERA uses the latest technology in AI and Natural Language Processing to understand the user query and fetch the relevant information from thousands of possible sources, all in a matter of milliseconds.	
55	1857	CHETTIAR/ALICIA/ CHITTILAPILLY/BOS CO/ DALVI/SAKET/ SERRAO/AVRIL	INTELLIGENT HEALTHCARE SYSTEM FOR NIRMAY MOTHER CARE CENTRE	CMPN	2020	Most Indian hospitals are adopting computer systems for automation of its departments and to move from paper based records to computer based records. But other than multi-speciality hospitals and a few mid-range hospitals, a large number of hospitals and local clinics still rely on paper based approach for keeping track of records. In addition to lots of manpower and resources for tracking the day-to-day activities, such manual record keeping is prone to mistakes and lack to provide adequate information for analysis. The proposed system majorly focuses on automating the working of Niramay Mother	Ms. Anuradha Srinivasaraghava n

						Care Center by providing a full fledged ERP system. This would simplify records management, enhance the ability to diagnose problems, assists in preventing treatment errors, and improves operational efficiency. This system is designed to store data accurately and to capture the state of a patient across time.	
56	1854	BELNEKAR/AKSHAY/ DSOUZA/VANESSA/ KANNITTAYIL/MARI A/ KEDAR/JAYESH	TREATING PHOBIAS USING VIRTUAL REALITY	CMPN	2020	Phobias are one of the most common types of anxiety disorders, affecting a significant number of people around the world. In recent years, Virtual Reality Exposure Therapy has emerged to help in phobia treatment. It combines elements of both Imaginal and Vivo exposure so that a person is placed in situations that appear to be real but are actually fabricated. Virtual environments created by using virtual reality (VR) tools can help make the treatment of certain types of phobias more efficient. In our project, we have mainly focused on three types of phobias- claustrophobia, acrophobia and arachnophobia and have created virtual environments that can be used in the treatment of these phobias. This system can	Ms. Dakshata Panchal

						efficiently help in the treatment of phobias ensuring patient's security, low costs and easy availability of software.	
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57	1866	TELANG/HRISHIKESH / SHANBHAG/ANUSHREE/ SHRUTI/SURESHAN	MALARIA PARASITE CLASSIFICATION USING IMAGE PROCESSING AND MACHINE LEARNING	CMPN	2020	<p>Malaria is a severe infectious disease caused by a peripheral blood parasite of the genus Plasmodium. In this work, a proposed approach primarily focuses on image processing techniques to process and enhance stained thin blood smear images for feature extraction, as well as machine learning techniques for the final classification of feature space. In the past, conventional microscopy techniques have proven to be time-consuming and had observed a lack of differentiation due to poor accuracy and lack of algorithms used. Researchers in this domain have already used various preprocessing, segmentation, and feature extraction techniques. In this project, our emphasis is to address the issues of conventional microscopy methods using techniques such as Otsu's method and Watershed algorithm for segmentation, followed by extracting texture features using CNN. We have also calculated color features using Bins Approach, statistical features using color moments, and texture features using GLCM matrix, which also equally play a pivotal role in feature extraction for classification. Further, these images will be classified into parasitized and uninfected cells by applying machine learning classifiers such as Linear SVM, Random Forest algorithm, and KNN over</p>	Dr. Kavita Sonawane
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					<p>feature space. The proposed algorithms have been experimented using the subset of Lister Hill National Center for Biomedical Communication (LHNCBC) dataset, which is a part of the National Library of Medicine (NLM). The performance of the algorithms is evaluated and compared using different performance evaluation parameters like accuracy, precision, recall and F1-score. It is expected to obtain better results of classification concerning these parameters.</p>	
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58	1920	HARSHIT,PARIKH, BHAUTIK,PARMAR, HARSH,SAWANT, RAHUL,SHAH	NEURAL IMAGE CAPTION GENERATOR	EXTC	2020	<p>The fundamental challenge for computers is to perceive data from images and form sentence-based descriptions from it. Computer Vision and Natural Language Processing are widely used for making it possible. It requires computer vision to understand the content of the image. A language model from the field of natural language processing was used to output words in the right order. Convolutional Neural network (CNN) is a robust image feature extraction algorithm. Gated Recurrent Unit (GRU) is typically used for effective sentence generation. A combination of these two models will generate appropriate captions. Experimentation with various datasets and comparison of the results with existing work was done. Different evaluation metrics were used for benchmarking the results. Our model results in a BLEU-4 score on the MS-COCO 2017 dataset as 53.5.</p>	Dr. Deepak Jayaswal
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59	1921	ABHISHEK C,SALIAN, GULAM,NASIR, SHALAKA,VAZE, PRAGYA,SINGH	SKIN LESION CLASSIFICATION USING DEEP LEARNING	EXTC	2020	<p>Skin cancer is one of the major types of cancers that can arise from various dermatological disorders and can be classified into various types according to texture, structure, color and other morphological features. Identifying the lesions from skin images can be an important step in pre-diagnosis to aid the doctors and infer the medical condition of the patient. Recent work has focused on classifying only melanoma from a given set of skin lesion images. However, some types of skin lesions (Acctinic Keratosis and basal cell carcinoma) can become malignant over a period of time. So by detecting these classes we can say we are cutting down the risk of malignancy and doing the task of early detection. We are able to classify different types of skin lesions (basal cell carcinoma, benign keratosis, dermatofibroma, vascular lesions, melanoma, and melanocytic nevi) with an accuracy of above 80% with Mobile Net, VGG-16 and our custom model which we have designed. With the help of thismodels, which will be embedded in skin lesion analyzer machines. This can give the patients as well as doctors a good idea of whether or not there is a need for medical attention and can avoid unnecessary panic/false alarms.</p>	Mr. Santosh Chapaneri
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						We are using different deep learning architectures to classify skin lesions with good accuracy relative to existing work.	
60	1900	MANISH,KATHEETH, YASHVI,DESAI,NIKHIL, MISHRA CHINMAY,TAWDE	RESTAURANT CHATBOT USING RASA	EXTC	2020	Chatbot is an Artificial Intelligence software that is designed to converse with humans through messaging or mobile applications, web-based applications. Our aim is to design a domain specific chatbot. We have developed an chatbot that is restuarant specific as most of the people are excited about going to new restuarants and trying different cuisines. Our bot, works as a guide to find nearby restuarants related to your choice of cuisine and also helps to make reservations for the same. The user's query or command is processed using Natural Language Processing (NLP) engine	Ms. Valentina Rani

						and the user will be provided with the appropriate response. All this processing takes place within seconds thereby proving to be an effective real time model.	
61	1917	YESHA,VIRADIA, RUCHIKA,PANCHARI YA,VIRAL,SHINGALA PRANAV,WALAVALK AR	IMAGE COLORIZATION AND IMAGE ENHANCEMENT	EXTC	2020	The method proposed here of image colorization presents a novel approach that uses deep learning techniques for colorizing gray scale images. Colorization of an image makes it possible for different elements to be differentiated based on the different colors. There is always a striving for an advancement made to the existing process in order to overcome the shortcomings of the previous methods. This report proposes a fully automated approach for colorization of images. In order to train a large dataset, we have opted to make use of CNN technique in order to obtain the desired result. A feed forward network in a CNN at test time is implemented. The class rebalancing technique mentioned in this report handles the problems such as de-saturated and unattractive output and produces much more vibrant and	Dr. Ravindra Chaudhari

						<p>aesthetically pleasing images. In spite of using class rebalancing for better colorized images there are a few limitations to the output. To overcome limitations of class rebalancing, GAN network is used. GAN consist of two network known as generator and critic. Generator uses decrappified image for colorization and feature learning whereas critic is used to reduce the loss and make the colorzation image look more realistic. Pre-trained GAN over a wide range of application is used by making some minor change to work as a colorization model. The GAN technique is used here in order to preserve the details of the images and enhancing the features.</p>	
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62	1908	PIYUSH,PUNMIYA, KISHAN,RAJAPATI,V ISHAL,SANGHAVI, PRIYAM,JAIN	COLOR SORTING USING ROBOTIC ARM	EXTC	2020	<p>Sorting is one of the production line’s most important tasks. A large number of researchers are interested in using Robot to increase productivity in automatic sorting systems. Typically sorting of objects is finished manually requiring human work. Identifying a particular object and placing it in the required order is a taxing work specially in the industrial field wherein one needs to segregate massive variety of objects. Image processing is of great significance in these days as it has wide applications in many high-tech areas. The proposed project mechanism has four process steps: identify, process, select and sort. It provides a solution for color sorting with image processing implementation. Efficiency and automatization can be improved in several ways. A simple robotic arm is used to apply the color sorting to a physical system. This model evaluates how well a robotic arm can sort different objects using a predefined color identification algorithm. A demonstrator was built to perform tests for sorting speed and color identification. The robotic arm can sort a predefined shaped and sized object in 14.34 seconds. The color identification is sensitive to external factors and does not necessarily return the right RGB-value depending on lightning and brightness. The</p>	Mr. Vaqar Ansari
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						R-value often has the largest error. To further improve the color sorting robot, another color identification method could be tested, other motor types should be incorporated and a more precise sensor should be implemented	
63	1938	AHMED YASIR UMAR FAZEEL FAUZIA AHMED GORI KARAN JETHALAL REKHA CHIKANE SHUBHAM DEVIDAS VAISHALI	MEDICAL ASSISTANT	INFT	2021	Many times a patient might under-estimate an underlying health condition and neglects it which may worsen over a time and cause a life-terminating disease and sometimes a person might irrationally worry about having a serious medical condition leading to unnecessary health anxiety. Patients in both these scenarios can be helped by having an interface that can predict if he/she has a serious medical condition or it's just health anxiety. A chatbot is one such interface that can be deployed to gain	Ms.Amrita Mathur

					<p>information of a patient's symptoms and determine the underlying medical conditions if any based on the information given by the patient with great accuracy without having to visit a clinic or a doctor. So these chatbots can act as a bridge between a patient and a doctor. Chatbots can be deployed using various technologies such as Deep Learning, Artificial Intelligence, etc. Using deep learning algorithms and long-short term memory networks a chatbot can be developed and accuracy as great as or more than 80% can be achieved.</p>	
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64	1937	<p>AGARWAL NIKITA SAMIR ABHA RANI AGARWAL ANDHALE RUTUJA VILAS URMILA BODHANKAR AARYA MAHENDRA ARCHANA</p>	<p>HIGHER DIMENSIONAL QUANTUM COMPUTING VIA QUDIT SIMULATIONS</p>	INFT	2021	<p>Computation is founded on binary logic. This binary logic is the core on which all of computing is built upon, whether it is simple calculations or massive simulations. In the early days, vacuum tubes were used to implement binary logic, which made the devices very bulky and inefficient. Then we progressed onto the silicon era, where transistors came to be used for computation. All of today's computers are a product of this silicon era, which has reached its pinnacle. We have created nanoscale transistors and chips that fit the maximum amount of circuitry in the smallest possible volume. Now we find computing power reaching stagnancy, even as the data generated by the world rises exponentially every single day. This calls for another revolution in computing technology, this time not just in implementation but also in logic. This is where Quantum Computing comes in. Involving less of artificial computing and more of harnessing the quantum behavior of various entities, Quantum Computing promises a revolution in parallel computation that will make transistor-based computing obsolete. But it isn't without its challenges. The exploitation of quantum states requires specific environments which need to be completely isolated from the</p>	Dr. Minal Lopes
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					<p>surroundings. They are also very unstable in standard conditions and prone to be affected by noise introduced from outside the system. This makes Quantum Computing a very expensive endeavor beyond the reach of all except those having a solid financial backing over a long period. Research into this field has thus been limited to such companies, and a lot of people and organizations who want to contribute to it are unable to do so, thus depriving the field of talent. To alleviate this issue, our project acts as a middle ground between the quantum and silicon domains. It aims to simulate quantum computing on traditional systems at least on a fundamental level, made accessible to a wide range of people from students and teachers to researchers and developers. This will catalyse the development of Quantum Computing, especially in the software domain, since it requires a completely different computing logic from binary, based on qubits, which can be developed and improved on simulations just as well as their expensive and delicate hardware counterparts. Throughout the project, we aim to explore the latest advancements in Quantum Computing and play a part in bringing them to the masses and making it accessible, convenient to operate, and easy</p>	
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						to understand. We also aim to contribute to the domain itself by means of exploring hybrid computing that arises due to a confluence of quantum and classical systems.	
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65	1963	SURKAR PIYUSH RAMAKNT DAYAL TEJAS VIVEK DAYAL ARTI DAYAL SINHA SHIVAM MANOJ KUMAR SINHA	INDOOR NAVIGATION SYSTEM	INFT	2021	The necessity of a reliable indoor navigation system in recent year is trending up with the increased time spent in large buildings such as big malls, hospitals or museums. GPS is a well-known technology already utilized for outdoor environment but the satellite signal cannot reliably pass into thick constructions and therefore researchers are looking for the best strategy to localize people in this context as well. Such problem is called simultaneous localization and mapping (SLAM) and it is the first step in order to build an indoor positioning system (IPS). Many strategies were adopted, mostly based on beacons which are required to be installed in the environment; however this project aims to propose an approach that does not involve external sensors or complex setups to run.	Dr. Minal Lopes
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66	1956	SATVI SANJYOT BHARAT CHITRA DCUNHA OREN VALERIAN ANITA SANDAM KARAN SUHAS VANDANA	ARDUINO SUPPORT TO QUORUM PROGRAMMING LANGUAGE USING CLOUD COMPUTING	INFT	2021	<p>Quorum programming language started out as a project aimed towards simplifying syntax to reduce complexity in writing codes. Over the years it has grown a lot and now it supports audio processing, basic game development, LEGO robotics and more. Due to this quorum can now be used to teach programming in high schools and colleges like. Through this project we aim to allow students to program arduino boards using this language alongside learning fundamentals of programming. This would result in adding a new application area to quorum. Our system transpiles(converts) user submitted quorum code into logically equivalent arduino code. Our system incorporates a total of 3 web services developed using NodeJS and Tornado, deployed separately as "containerized" applications over Heroku. Apart from this, MongoDB and Firebase Cloud Storage are used for storing user details and files respectively. This design allows us with an asynchronous and scalable system entirely on cloud. Thus users can program arduino boards using quorum right in their browser.</p>	Dr. Nitika Rai
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67	1939	PATWA YASH BHARAT SMITA KOTIAN TULIKA MADHURAJ KRUPA KOTIAN TUSCANO RALIN WILSON ANJU	A P2P BOTNET DETECTION TECHNIQUE USING MACHINE	INFT	2021	<p>As compared to earlier when networks were constructed around remote data centers, they are now connected to virtual applications, the cloud, and IoT gadgets globally to facilitate analytics at the edge, work decentralization, and distributed information. While these distributed networks provide better connectivity and give users a wide range of options to interact with other users, it also creates massive loops in security. Today, botnets prove to be the one among many scandalous perils to security in networks. While Client-Server botnets employ centralized communication architecture, Peer-to-Peer (P2P) botnets acquire a decentralized structure for trafficking commands and controlling data, hence making them more difficult to be identified in a network. This project proposes an effective system to detect Peer-to-Peer botnets by applying machine learning algorithms to network traffic parameters. The data from the CTU-13 dataset is input to the system. The proposed system has 3 phases. In the first stage, feature reduction was performed on the network traffic to recognize which of the features affected the classification considerably. This is done manually using the techniques of feature selection like feature importance and</p>	Ms. Alvina Alphonso
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					<p>correlation matrix with a heatmap. In the second stage, the machine learning detection model was developed by testing five algorithms, which classified the traffic into Botnet (malign) traffic and legitimate (benign) traffic in the last phase. The output of the system generates the classification of the network traffic with visualizations to gain insights on the network activity. The five machine learning algorithms employed are Decision Tree, Support Vector Machine (SVM), K-Nearest Neighbour (KNN), Logistic Regression, and Naive Bayes. On performing comparative analysis, the Decision Tree algorithm successfully detected Peer-to-Peer botnet traffic by demonstrating an accuracy of 99.90%.</p>	
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68	1995	JAYASHREE DOMALA/ KEVIN/DSOUZA/ DWAYNE/FERNANDE S/ MANMOHAN/DOGRA	RECOMMENDATIONS FOR YIELD ENHANCEMENT IN SEMI- HYDROPONIC OPERATIONS	CMPN	2021	<p>Some centuries ago, botanists realized that plants absorbed nutrients via a readily available medium - soil, this led to the soil being a reservoir for holding the nutrients for the plant. However, it fails to serve the ever-growing needs of the population and has a lot of pitfalls. Cultivation of several crop cycles renders the soil infertile, use of chemical fertilizers and pesticides have adverse health effects, overconsumption of resources leads to a reduction in profits. Population growth has also led to the depletion of arable land. Hydroponics coupled with an intelligent system is a potential solution to the aforementioned challenge. Hydroponics is known for using fewer nutrient materials for plants, it is immune to pests as cultivation is indoors, and it can receive almost everything it needs in the right proportions under a semi-controlled environment. This intelligent system that harnesses the power of modern technology and AI would be able to grow and cultivate crops in a semi-controlled environment using hydroponic techniques. The plant growth and health would be monitored at every time step and the right amount of nutrients would be supplied based on the plant's needs thus optimizing the yield, minimizing the wastage, and maximizing the profits. Health monitoring</p>	
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						<p>in the form of disease detection of the plants would also be done leveraging the power of computer vision using deep learning. Apart from this, the system would help guide agronomists or farmers in making informed choices in crop selection to help assist them in receiving a high-quality yield based on season and profitability.</p>	
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69	1981	CLARICE/D'SILVA/ SANCIA/D'CUNHA/ AGNELLUS/FERNAND ES/ ANISHA/FERNANDES	GODSEYE SMART VIRTUAL EXAM SYSTEM	CMPN	2021	<p>The Covid-19 Pandemic has been one of the defining events in recent history. It has affected millions of lives and has an impact on every sector of civilization. No matter the domain, the pandemic has forced it to implement radical and innovative reforms. Education and Academia has been identified as one such sector that has been impacted most adversely due to the Pandemic. Disrupting the age-old Classroom Design, the Pandemic has forced educational institutes and schools to implement 'Online Classes'. A concept that has now been standardized,by many. However the evaluation aspect of education still remains to be desired. There are no easy to use or accurate means of conducting examinations for students during this Covid-19 Pandemic. There are a few options available, but they are either too expensive for the institutes or inconvenient for the students to use. There needs to be a solution that not only goes hand in hand with the 'e-learning Approach' but also is convenient to use by all its users to help institutes validate their students' performance and prepare them for conducting any malpractices.</p>	Ms.Bidisha Roy
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70	1985	AYUSH/NAVIGIRI/ SHIVANI/RAUL/ ALISTO/PINTO/ ABHINAV/PISHAROD Y	IMG2ART - IMAGE TRANSLATION	CMPN	2021	In fine art, especially painting, humans have mastered the skill to create unique visual experiences through composing a complex interplay between the content and style of an image. Thus far the algorithmic basis of this process is unknown and there exists no artificial system with similar capabilities. Style transfer generates an image whose content comes from one image and style from the other. Image-to-image translation is a class of vision and graphics problems where the goal is to learn the mapping between an input image and an output image using a training set of aligned image pairs. Thus a system is needed for generating art. The system generates art by looking at art and learning about style; and becomes creative by increasing the arousal potential of the generated art by deviating from the learned styles. Thus the system is built over Generative Adversarial Networks (GAN), which have shown the ability to learn to generate novel images simulating a given distribution.	Ms.Vincy Joseph
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71	1998	MANAS/ACHARYA/ RITIKA/BHOLE/ SAHIL/NIRKHE/ SANKET/DALVI	CLOUDCRATE - CROSS CLOUD DOCUMENT SHARING PLATFOM	CMPN	2021	<p>World is in the middle of major digital transformations. Businesses need to go online for file storage, internal communications, sharing documents with a client or another organization. Currently, the collaboration is done via Email. But it is not ideal for a long-term collaboration where the client is with the company for many years, and a lot of documents have been shared. The organization usually chooses a cloud storage provider and application stack which suits their needs. The companies in collaboration may not have the same cloud storage provider. The mission of Cloud Crate is to solve the data transfer problem between organizations. During B2B interactions at many instances there involves transfer of hundreds of large files. This process is time consuming as it involves downloading; uploading and local storing of large files. With Cloud Crate our aim is to enable the end user to directly transfer data from the existing cloud storage service to the new cloud storage. This will be accomplished with serverless technology stack thereby reducing functional costs and improving time to market for the product. CloudCrate aims to reduce the difficulty of transferring files between cloud storage systems and providing a platform that makes local</p>	Ms.Pradnya Rane
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						<p>storage in this process completely redundant. CloudCrate will allow the transfer Initiator to select files he/she wants to include in the crate. With the help of DMS libraries built by the team CloudCrate can access the files metadata from its respective Cloud Storage Service. Once the crate is built it is stored in CloudCrate's database (Amazon DynamoDB). Now it can be reviewed by a signing authority after which the crate proceeds to the upload stage. All files are taken from Cloud Storage A and moved to an intermediary storage with AWS S3 which can be configured by client or CloudCrate will use its own S3 service.</p>	
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72	1992	JESDIN/RAPHAEL/ PRISHITA/KADAM/ PRAJWAL/KARALE/ IAN/DSILVA	DETECTION,CLASSIFICA TION AND SEVERITY PREDICTION OF ACUTE INTRACRANIAL BRAIN HEMORRHAGE	CMPN	2021	<p>Acute Intracranial Hemorrhage (ICH) is a condition that occurs when a blood vessel within the skull is ruptured or leaks. This condition causes the brain cells to die and the damage thus caused can be severe and result in physical, mental, and task-based disability. ICH accounts for 10 to 209 of all strokes and the mortality rate ranges from 35% to 529a at 1 month. One of the barriers toward a successful mortality reduction has been delayed and incorrect diagnosis. Due to this detection, classification, and prediction of severity of intracranial brain hemorrhage plays a very important role in order to decrease the mortality rate in patients. In this paper, we propose to build a system that would be able to detect even the smallest of intracranial hemorrhage, classify it correctly into its subtype, and then predict whether or not it's severe. For this, we have proposed three different Deep Learning Architectures: Xception, Xception LSTM, and Xception GRU. In the latter two, we have combined Convolutional Neural Network (CNN) and Recurrent Neural Network (RNN). We have kept the base model (Xception) the same to perform a proper comparison between these architectures and to see which of them will perform better detection, identification, and</p>	Dr Kavita Sonawane
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					<p>classification. Furthermore, by using Glasgow Coma Score (GCS) we are predicting whether or not the detected hemorrhage is severe. Additionally, we have also performed Windowing using different windows like Brain Window, Blood/Subdural Window, and Brain Window in order to maximize subtle differences between the features which would further lead to better feature extraction.</p>	
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73	2040	RAMESH,CHAUDHAR Y, KAUSTUBH,JOSHI ADITYA,GHOLKAR	DESIGN AND DEVELOPMENT OF A CONTROL PANEL FOR BUCKET ELEVATOR	EXTC	2021	Time is money and accuracy builds credibility'. This project deals with the 'Design and fabrication of the control unit of a z- type bucket elevator'. The sole purpose behind this machine was to eliminate the strain caused to the workers responsible to lift up heavy loads, carry them and then turn them over into a hopper. The existing process thus was very much tiring and resulted in a slower production. This led to the fabrication of a z-type bucket elevator whose driveway is coupled with a 3-Phase Induction motor which will be driven using the technology of Variable Frequency Drive. There are several different sensors that are needed to be interfaced which will always ensure that adequate payload is added to each basket. The most challenging part is to ensure that the system comes to an immediate halt as soon if there is any malfunctioning in the drivetrain of the system.	Dr. Deepak Jayaswal
74	2033	TANAY,DANGAICH, VISHAL,KARKERA ANIRUDH,KULKARNI , MANASI,ODASSERY	AGRI TECH:FRAMEWORK FOR SMART AGRICULTURE	EXTC	2021	Existing traditional method of soil testing is either expensive or time consuming. The concept of visible near infraRed is a way to achieve a cost-effective model while takes minimum amount of time needed for soil analysis. This will help in maintaining the soil quality and also profit the consumer for saving money and time. The project aims to implement a module which be measuring	Ms.Jovita Serrao

						the moisture content, the pH level, the temperature of the soil, and basic soil nutrient contents such as nitrogen, phosphorus and potassium level. Using the VIS-NIR concept, we are making an optical transducer which will tell about the NPK constituents of a soil.	
75	2023	ZUBER,ANSARI, GAURAV,BAVDANE NEHA,BHUJBAL,NAM EERA,SHAIKH	DETECTION OF PNEUMONIA IN CHEST X- RAY USING TRANSFER LEARNING BASED APPROACH	EXTC	2021	Pneumonia is a life-threatening infectious disease affecting one or both lungs in humans. According to World Health Organization(WHO), one in three deaths in India is caused due to pneumonia. Early diagnosis can provide a significant chance for correct treatment and survival. Deep Learning techniques during the last few decades had tremendous impact on various fields be it image recognition or speech recognition. It is also highly relevant for medical imaging. There is lack of data availability as some of the medical data is subjected to patient privacy issues while the outbreak of a new disease also arises the same issue. Current trend in deep learning technique involves training a model over large dataset and exposing it for testing but this convention might not hold against real world applications where uncertainty is common syndrome. Thereby the proposed method, use of transfer learning technique, serves a multi prong	Ms.Pallavi Patil

					<p>solution as it need not require data from the same feature space. Particularly training a large CNN architecture (ResNet50) over a large ImageNet Dataset then transferring the weights of initial layer and fine-tuning the last layers will result in a higher precision and recall value and faster performance in terms execution time as compared to existing methods. In this work, the collected dataset is passed through six different preprocessing steps before it is fed to the ResNet-50 module, in order to improve the validation and classification accuracy of the proposed model and achieve remarkable test accuracy. The same methodology will also hold good for any detection and localization of abnormality in Medical Images (eg. classification of Covid-19) with consistent performance which involves even multi-class classification problems.</p>	
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76	2045	PRAVIN,YADAV, KARTHIK,IYER, SAGAR,VORA, OMPRAKASH,MAND AL	GENRE BASED HIT SONG PREDICTION	EXTC	2021	<p>Record companies invest billions of dollars in new talent around the globe each year. Gaining insight into what actually makes a hit song would provide tremendous benefits for the music industry. In this research we tackle this question by focusing on the genre based hit song prediction problem. Being able to predict whether a song can be a 'Hit' has important applications in the music industry. Although it is true that the popularity of a song can be greatly affected by external factors such as social and commercial influences, to what degree the audio features computed from musical signals (whom we regard as internal factors) can predict song popularity is an interesting research question on its own. Motivated by the recent success of deep learning techniques, we attempt to extend previous work on hit song prediction by jointly learning the audio features and prediction models using two different approaches. We experiment with Feature Based Model using Spotify API features and Tag Based MusiCNN Transfer Learning Model that takes the primitive and raw Log Mel-Spectrogram as the input for feature learning.</p>	Dr.Deepak Jayaswal
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77	2051	STARLIT,RACHEL GEEJAY,ANANDAKRI SHNAN,VADAKKATH YL SAFAL,VADASSERY, VINIT,YENGANTIWA R	IMPLEMENTATION OF FIREWALL AND CONTROLLER REDUNDANCY IN SOFTWARE DEFINED NETWORKS	EXTC	2021	<p>In recent years, software-defined networking (SDN) has evolved to replace the traditional design of the current network. SDN is the emerging network architecture which splits the functions of networking devices into two groups, namely the control plane and the data plane and is controlled by the centralized controller using the OpenFlow Protocol. Even though the new network architecture has simplified the control of networks, one of the fundamental issues exposed due to the new architecture of SDN is the security risks. Network Firewalls are one of the most important components used in networks. It helps in securing traffic and enforces security policies. The speed of the firewall is a hindrance, often firewall link speeds are slower than the supported network interface and can cause the traffic burst from the host to be buffered until packets are processed. To overcome these issues, the aim of our project is to implement some firewall functionalities on SDN to create duplicate instances of the firewall with the help of Controller. We have selected Ryu, a python-based SDN controller and Open vSwitch. To create the SDN network topology, we have used Mininet. Iperf has been used to analyze the performance of firewall module.</p>	Mr.Ramjee Yadav
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78	2103	DIAS,REBECCA, DSOUZA,CHELSEA FERNANDES,DELICIA MEWADA,BHOOMIKA	AUTOMATED E- LEARNING SYSTEM PROVIDING ADAPTIVE CONTENT SOLUTIONS FOR CLARAEON LEARNING	CMPN	2022	The modern classroom has changed in recent years. Teaching methods, technology, subject choices, and assessment metrics have all transformed education for students. But one thing remains constant: Learning has always been enhanced by personal, one-to-one support, and students who receive personal tutoring perform better than those who don't. The current education system falters at providing an efficient, personalized, and high-performance learning system according to every student's grasping ability, and hence there is a lack of personal attention for every student as our present-day system pays attention to the whole class	Ms. Anuradha Srinivasaraghavan
79	2104	DSILVA,AARON DSILVA,ALAN DSOUZA,ANSEL LOBO,SHERWIN	IIOT & ML POWERED PREDICTIVE MAINTENANCE USING DIGITAL TWINS FOR IXORIO	CMPN	2022	The ultimate objective of every industrial plant or vital utility plant is to increase output quantity and quality while keeping production costs as low as feasible. To do this, plants must be kept in peak operating conditions in order for the system's throughput to be maximized. The system must be properly maintained in order to remain completely functional. The plant's efficiency is maintained by a variety of maintenance measures. Maintenance has an impact on the cost of items produced in any sector. To avoid breakdowns, maintenance plans should be developed so that maintenance chores are completed at the appropriate times. Unnecessary maintenance chores raise maintenance expenses while also lengthening the time it takes to do them.	Mrs. Anuradha Srinivasaraghavan

						Through this paper, the aim is to build an MES system that leverages the advantages of technologies such as Digital Twins, Machine Learning, Industrial internet of things, and Predictive Maintenance (PdM) together with Industry 4.0 principles. The goal is to optimize plant operation, i.e. reducing system downtime, which would result in lower production costs.	
80	2121	LOPES,LANCE MICHAEL GIGOOOL,COLIN LARRY GONSALVES,LIVIA SANJEEV CORREIA,CAIRN NELSON	GMENTAL STATE DETECTION AND POST TREATMENT USING NATURAL LANGUAGE PROCESSIN	CMPN	2022	Mental disability and mental health care have been neglected in the discourse around health, human rights, and equality. This is perplexing as mental disabilities are pervasive, affecting approximately 8% of the world's population. Furthermore, the experience of persons with mental disability is one characterized by multiple interlinked levels of inequality and discrimination within society. Efforts directed toward achieving formal equality should not stand alone without similar efforts to achieve substantive equality for persons with mental disabilities. Structural factors such as poverty, inequality, homelessness, and discrimination contribute to risk for mental disability and impact negatively on the course and outcome of such disabilities. A human rights approach to	JAYASHRI MITTAL

					<p>mental disability means affirming the full personhood of those with mental disabilities by respecting their inherent dignity, their individual autonomy and independence, and their freedom to make their own choices. Assessment and outcome monitoring are critical for the effective detection and treatment of mental illness. Traditional methods of capturing social, functional, and behavioral data are limited to the information that patients report back to their health care provider at selected points in time. As a result, these data are not accurate accounts of day-to-day functioning, as they are often influenced by biases in self-report. Mobile technology (mobile applications on smartphones, activity bracelets) has the potential to overcome such problems with traditional assessment and provide information about patient symptoms, behavior, and functioning in real time. Although the use of sensors and apps are widespread, several questions remain in the field regarding the reliability of off-the-shelf apps and sensors, use of these tools by consumers, and provider use of these data in clinical decision-making.</p>	
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81	2131	DCUNHA,ROYCE RODRIGUES,AARON SAHU,MANISHA RODRIGUES,CASSANDR A	GLAUCOMA DETECTION AND CLASSIFICATION	CMPN	2022	<p>Deep learning is an important technique for investigating medical images. Glaucoma is a chronic eye disease that results from visual nerve damage caused by intraocular pressure in the eye. It is one of the leading causes of blindness around the globe and if not detected early enough, it can lead to complete blindness. In the early stages of glaucoma, there are no symptoms of vision loss, but as it progresses, it may result in irreversible blindness. It is often associated with an accumulation of pressure within your eye. Glaucoma is common among families. It usually happens later in life. Diagnosis of glaucoma in the clinical environment includes intraocular pressure measurement, visual field testing, or examination of the optical disk of fundus images. Usually, people have no symptoms, and if symptoms occur, it is around the end of the illness. The primary sign is generally a loss of lateral vision or peripheral vision. Although glaucoma cannot be prevented, it can be reduced in severity if discovered early. In addition, the number of ophthalmologists required for evaluation by direct examination becomes a limiting factor due to aging, population growth, physical inactivity, and obesity which contributes to increasing the risk of vision loss. However, in large-scale screening scenarios, these manual assessments are not precise, mostly in developing countries due to the insufficiency of trained experts and scarce modern imaging equipment. In this paper, several models are being used to study glaucoma detection. The models chosen are: VGG19, VGG19+LSTM,</p>	Kavita Sonawane
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						<p>InceptionV3, and InceptionV3+LSTM. Every model is being worked with K-fold cross-validation and data augmentation to overcome the limitation of a small dataset. The features extracted are used to classify the input image and are then projected to be either glaucomatous or normal. Finally, the values obtained for various performance evaluation parameters are compared. The ACRIMA dataset consists of 705 fundus images (396 glaucomatous and 309 normal images), out of which 632 images are for training, 73 are for testing, with a 90-10 split. The evaluation results of the VGG19 model are, accuracy: 91.78%, precision for normal class: 85%, precision for glaucomatous class: 100%, recall for normal class: 100%, recall for glaucomatous class: 100%, and F1 score for normal class: 92%, F1 score for glaucomatous class: 92%. The evaluation results of the VGG19+LSTM model are, accuracy: 94.52%, precision for normal class: 90%, precision for glaucomatous class: 100%, recall for normal class: 100%, recall for glaucomatous class: 89%, and F1 score for normal class: 95%, F1 score for glaucomatous class: 94%. The evaluation results of the Inception v3 model are, accuracy: 94.03%, precision for normal class: 91%, precision for glaucomatous class: 97%, recall for normal class: 97%, recall for glaucomatous class: 92%, and F1 score for normal class: 94%, F1 score for glaucomatous class: 94%. The evaluation results of the Inception v3+LSTM model are, accuracy: 90.41%, precision for normal class: 88%, precision for glaucomatous class: 93%, recall</p>
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						for normal class: 95%, recall for glaucomatous class: 85%, and F1 score for normal class: 92%, F1 score for glaucomatous class: 89%.	
82	2114	ACHARYA,MRUDULA ALAM,ALMASH JETSON,MICHAEL NORONHA,DARREN	AUTOMATIC REPLENISHMENT SYSTEM	CMPN	2022	The average customer in the retail market has many choices in the matter of where the latter can buy their supplies,and in this regard,prefers efficiency in the nature and purpose of a buying visit to a retail store.This translate to a customer requirement that entails lesser time spent browsing the shelves,and the ready availability of all goods that the individual might need,since the absence of any item on the buyer's list might necessitate a visit to a competing retail store.Any competent retailer wishes to avoid this possibility,to ensure that customer satisfaction and loyalty is always high.However,it may not always be able to accurately and quickly track,detect and resolve the absence of inventory on stocked shelves,without engaging considerable	Vincy joseph

						resources and manpower .A fully automatic replenishment management system assisting the retailer in making their restocking decisions is presented.The project focuses on creating an application that can identify the absence of a certain item or multiple items on the shelf in question,and that can further alert the shop owner of the need to replenish the stock or shelf of the item in question.The application uses depth learning algorithms to build a model that can predict with high accuracy the absence of stocked items,and also leverages the power of predictive sales forecasting to inform the purchase suggestions	
83	2071	SINGH,ADARSH SHETTY,AMAN WARSI,KARIMULLAH SHARMA,VEDANT	EXPERIMENTAL STUDY OF NANO PCM BASED SOLAR THERMAL ENERGY STORAGE SYSTEM	MECH	2022	This research project aims to contribute in the field of thermal energy storage capacity of a solar water heater, by using materials that change their phase to store energy. These materials, known as Phase Change Materials (PCMs), are integrated with Nanomaterials to enhance their thermal properties. For our study we took Paraffin wax -OM46 grade as our PCM material & mixed it with CuO-SiC nanoparticles. For our experimental setup we have used 0.6 %wt each of CuO-SiC nanomaterials along with paraffin wax as a nano enhanced phase change material (NEPCM). Latent heat thermal energy storage works on the principle of phase transition of a material. Usually solid–liquid phase change is used, by melting and solidification of a material. Upon melting heat is	BYSANI MALAKONDAIAH

						<p>transferred to the material, storing large amounts of heat at constant temperature; the heat is released when the material solidifies. Materials used for latent heat storage are called PCMs. The nanocomposite was prepared using a mechanical stirrer by gradually adding CuO-SiC nanoparticles into the heated paraffin wax and stirring continued for half an hour duration for thorough mixing. Further by using the ultrasonification method NEPCM was prepared with 0.6 %wt each of CuO-SiC nanomaterials. In this research we did analysis on thermal properties of PCM and NEPCM using both practical and simulation models.</p>	
84	2073	JAISON,JOEL DSOUZA,HILTON DUDHAT,DAKSH FERNANDES,SHAYN E	ENGINEERING OF NATURAL FIBER REINFORCED COMPOSITE MATERIAL FOR DOMESTIC FURNITURE APPLICATION	MECH	2022	<p>Composite materials have been gaining immense relevance in today's world because of their unique ability to combine different materials to create a new material having enhanced physical, chemical, and mechanical properties than its component materials. In a bid to become more sustainable and eco-friendly, the use of natural fiber-reinforced composite materials in different applications is explored. We aim to engineer one such composite material using Flax Fiber, Hemp Fiber and Epoxy resin as the matrix. This natural fiber-reinforced composite material is analyzed, fabricated, and tested to assess its initial mechanical properties. The application of this new material will be examined in the manufacturing sector of domestic/household</p>	RAVINDRA GARMODE

						furniture as an alternative to the conventional domestic furniture making material viz. wood.	
85	2079	DSILVA,CHRIS RISHON STANY, FERNANDES,MAXON XAVIER, THARAKAN,YOUHAN A DESMOND RAJAN,DINESH ADILI	SELF CHARGING BICYCLE USING KERS SYSTEM	MECH	2022	The electrical vehicles are powered by electric motor and electrochemical battery. The main drawbacks of the E-Bikes are limited range and it consumes more time to recharge. For charging of E-Bikes, the charging station infrastructure is not fully developed in India. This project proposes the design of an E-Bike such that the E-Bike will recharge its battery while itâ€™s in running condition. When the rider is tired out after a distance range is completed, the recharged battery is switched to run the E-Bike. This will increase the distance range of E-Bike per charge. Kinetic Energy Recovery System (KERS) is a system for recovering the moving vehicle's kinetic energy under braking and also to convert the usual loss in kinetic energy into electrical energy.	ROHIT PATIL

					<p>When riding a bicycle, a great amount of kinetic energy is lost while braking, making start up difficult. To utilize this energy a thin disk is connected via chain and sprocket to the rear wheel. The moving thin disk further helps to convert the mechanical energy into electrical energy by charging the battery with the help of Dynamo. Thus the Electrical kinetic energy recovery system converts the kinetic energy into chemical energy for storage and an electric motor generator system is used as the energy transfer and control media. The main use of the Dynamo is to absorb the power generated. Regenerative dynamo, in which the prime mover drives a DC motor as a generator to create load, make excess DC power. This stored energy is used to drive the bicycle with the help of a motor which reduces the human efforts increases the comfort level of humans.</p>	
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86	2065	CARVALHO,CRAIG J, JOSHI,SHRIDAMA P, KASHID,SWAPNIL S, KELKAR,PRATHMESH H	NANOFLUIDS THE NEXT SUPER COOLANT FOR RADIATOR	MECH	2022	<p>A radiator is a mechanical device, which is extensively used in automobiles, buildings and electronics as a heat exchanger. Radiators are used to transfer thermal energy from one medium to another for the purpose of cooling and heating. A radiator is always a source of heat to its environment, although this may be for either the purpose of heating the environment, or for cooling the fluid or coolant supplied to it, as for automotive engine cooling and HVAC dry cooling towers. Despite the name, most radiators transfer the bulk of their heat via convection instead of thermal radiation. Radiators are classified according to the direction of the water flow through them. In some, the water flows from top to bottom-down flow type radiator. In other, the water flows horizontally from an input tank on one side to another tank on the other side-cross flow type radiator. Radiators are usually made of copper and brass because of their high heat conductivity. The various sections of the radiators are almost completely joined by soldering. There are two basic types of radiator, first is tubular type and second is cellular type. As the technology is developing day by day, there is a requirement for enhancement in performance of automobile radiator to have a better performance of the IC Engine and fuel effectiveness. A feasible solution to increase the effectiveness of the radiator will be the use of stabilized nanofluid. A mixture of small amount of solid particle, whose size is less than 100nm in the fluid phase, is termed as nanofluid.</p>	MAGESH NADAR
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87	2078	ADGAONKAR,ANISH, BADGUJAR,PRAJWA L, MISHRA,NILESH, MORE,TAPASWI	HOT AND COLD WATER DISPENSER	MECH	2022	<p>The project we have undertaken is creating a hot and cold-water dispenser using Peltier modules in place of conventional heat generation by heating effect of electric current. Peltier modules work on seeback effect which produces heat on one side and cools the other side when electricity is passed through it, thus this project aims at achieving cold and hot water based on this property.</p> <p>For the setup waterblocks will be attached to both sides of the Peltier modules. Two to three of such arrangements will be connected in series to each other by means of pipe. This will allow water to flow through each water block arrangement in a sequential manner. The water blocks attached to the hot side of Peltier modules will naturally start to heat up on passage of current, this will further heat the water flowing through these water blocks and also allow the water blocks to cool down. Similarly, the cooler waterblocks attached to the cold side will absorb heat from the water flowing through them in turn cooling the water down.</p> <p>Before we get on with the actual physical experimentation, we thought a simulation will be useful as it may give us insight on how the actual setup may look like, whether we will be able to achieve our goals, what kind of problems might be faced.</p>	YUNUS DALAL
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88	2143	DIAS,LEAFIA, KELUSKAR,KETAKI, DIXIT,ANVIKSHA, DOSHI,KRUNAL	SIGNEND:AN INDIAN SIGN LANGUAGE ASSISTANT	INFT	2022	<p>Communication is an essential day-to-day activity that human society thrives on. Indian Sign Language (ISL) is one form of oral communication among the deaf-mute community in India. As the general public usually tends to be unaware of this form of interaction, daily conversations are strenuous for a deaf-mute person. Previously created systems focus on detecting alpha-numeric signs pertaining to users with five fingers solely. This paper describes an ISL system that can recognize the alphanumeric hand signs of its users with five and six fingers and translate them into their corresponding text equivalences. A custom dataset is created that explicitly tailors to these requirements. Additionally, this system can convert entered text (letter, number, word, sentence) into corresponding sign equivalences. Sign-toText conversion is achieved by using Mediapipe-Hands Machine Learning (ML) model to detect hand signs for deaf-mute people with five fingers. Similarly, an Object Detection Application Programming Interface (API) is implemented to detect hand signs for users with six fingers. Presently, the proposed system has an average accuracy of 90 percent.</p>	JOANNE GOMES
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89	2158	DSOUZA,JOSHUA, GER,SELINA, WILSON,LENI, LOBO,NIKHIL	VIRTUAL COLLEGE TOUR	INFT	2022	<p>Virtual reality(VR)is a powerful and interactive technology that changes our life unlike any other.Virtual reality,which can also be termed as immersive multimedia,is the art of stimulating a physical presence for the audience in place both real and imaginary. "Virtual reality is a technology that can bring people to places they might not otherwise reach." As technology advances in to the future Virtual reality secures its place as an innovative and creative domain that has limitless possibilities,this includes simulating realism to such an extent that you can barely tell the difference between what is fake and what is real.This projects aim to implement this sense of simulating Realism using VR and high textured 3d modeling into creating a Virtual Tour of St Francis Institute of Technology,an Engineering College in Borivali.The project Virtual College Tour will give the new students as well as students interested in the college a virtual experience of our entire college.,the campus and all the facilities that it has to offer. The project aims to spread awareness and help students to get a brief overview of the college without having to step into college physically. In the current scenario while the project was being built (2021-2022),the COVID-19 pandemic has enforced a lockdown on all colleges.This project tackles the issue for new students specifically during this lockdown to explore the college from the inside as it is not possible for them because of the lockdown.The project will be built using Unity Engine which is a free software to build and develop games with support for VR,AR and much more.The college</p>	NITIKA RAI
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						3d model will be built accurately using real image and measurements from the college itself using Blender 3d which is a powerful 3d modeling and texturing software which is also capable of creating body rigs and animations.This project will be exported to windows,Mac as well as for phones(Android)for people to use.It can be used without VR,but a VR Headset can be used along with thePC/Mobile application to enhance the experience of the viral tour.	
90	2148	CHAVAN,SEEDHITA DHOKE,SIDDHESH PARMAR,VIREN RAVAL,ROHAN	EATSMART- CALORIE ESTIMATION APPLICATION	INFT	2022	In today's world, a healthy lifestyle is a must for every individual. Exercise is important to staying healthy but keeping an eye on your diet is more important. People have started to become more conscious of what they consume and how much they consume. Everyone wants to keep their diet under control and avoid obesity. In this paper, the system proposes an android based application - EatSmart, which helps to predict the calories and nutritional values of food by a single click of the image. The application also offers various diet-friendly recipes and helps end-users connect with various nutritionists or dietitians across the city. The	NITIKA RAI

						system uses the CNN algorithm to predict various food items. The model is a 12-layer deep convolutional neural network trained for 21 classes and achieves an accuracy of 92.36%.	
91	2151	POTNIS,PURANJAY NAYAN RODRIGUES,KEVIN SEQUEIRA,FELICIA PINTO,RELSON	LOCAL SHOP SEARCHER	INFT	2022	Due to the lack of technology in the decision making process,intelligent systems (IS)were developed.IS are technologically advanced machines that perceive and respond to the world around them.The main ability of these systems is to be able to adapt to the data they receive.Recommendation systems(RS)represent an integral part of intelligent systems.The main goal of anRS is to help users to streamline their decision making process.While most of the RS ace this task,most of the recommendation engines do not consider user's temporal as well as location parameters while generating recommendations,hence this project presents the design and implementation of a Time and Location Context Aware Recommendation	GRINAL TUSCANO

						System(TLCARS)which has been integrated into mobile application for better user experience.Considering the time and location data of users,helps the system in better understanding what to recommend,when to recommend and which places to recommend.Therefore the system considers parameters such as time and location,each of which are filtered through to get meaningful recommendations for each user.TLCARS will benefit the user,by reducing the amount of input the user will provide in receiving their personalized recommendations.	
92	2155	COUTINHO,REUBEN GUPTA,ANSHIKA RODRIGUES,RHEA SERA TRIPATHI,ANKITA	BLOCKCHAIN IN HEALTHCARE	INFT	2022	Blockchain is a specific type of database. It differs from a typical database in the way it stores information; blockchains store data in blocks that are then chained together. As new data comes in it is entered into a fresh block. Once the block is filled with data it is chained onto the previous block, which makes the data chained together in chronological order. Different types of information can be stored on a blockchain but the most common use so far has been as a ledger for transactions. In Bitcoin's case, blockchain is used in a decentralized way so that no single person or group has control—rather, all users collectively retain control.	JOANNE GOMES

93	2152	POPAT,MEET RAI,YASHRAJ VAKHARIA,DEEP DOSHI,AAYUSH	CHATBOT USING SPEECH RECOGNITION FOR EDUCATIONAL INSTITUTE	INFT	2022	<p>Decentralized blockchains are immutable, which means that the data entered is irreversible. For Bitcoin, this means that transactions are permanently recorded and viewable to anyone.</p> <p>The goal of this Chatbot that uses Speech Recognition in educational institutions is to automate and simplify the user experience by doing duties such as asking users what they're looking for and providing the information they require. The necessary software and hardware are readily available and simple to use. Using a chatbot on a college website can result in error-free and faster responses to user queries. As it both voice and text based, it assists the user as a human assisting with their questions. Using Python language and specifically using natural language toolkit(nltk) the chatbot has been developed. Without having to physically visit the campus, visitors to the college website can enjoy a user-like inquiry experience.</p>	GRINAL TUSCANO
94	2086	BHARAMBE,ASHISH DATE,TANISHQ NEMADE,BHUVNESH KULKARNI,LALIT	IMPLEMENTATION OF TRANSFORMER LESS INVERTER FOR SINGLE PHASE GRID CONNECTED PV SYSTEM	ELEC	2022	<p>Grid connected photovoltaic (PV) inverters feed power directly to the grid with the aid of power electronics converters. Recent studies revealed that transformer less inverters are preferred in single phase grid connected Photovoltaic (PV) applications due to lower size and weight, lower cost, improved efficiency etc. But there are issues with</p>	PRATIK RAHATE

95	2089	BHAND,MANASVI SANJAY BHATT,KEDAR NIMESH GITAYE,SAGAR PRABHAKAR PANCHAL,ADITYA PRAKASH	DESIGN AND SIMULATION OF AN INDUCTOR BASED ACTIVE CELL BALANCING CIRCUIT FOR LITHIUM-ION BATTERIES	ELEC	2022	<p>transformer less grid connected systems such as leakage currents, direct current injection and safety. Many inverter topologies are studied in the literature to overcome these issues. This report presents comparison of three commonly used transformer less H Bridge topologies, design of CLC and LCL filter and control strategy for grid synchronization. Simulation was done in MATLAB, SIMULINK and results obtained are compared and analyzed.</p> <p>In this modern era where energy demand is increasing at an exponential rate, energy storage devices play a crucial role in meeting the demands when needed. Rechargeable batteries are gaining momentum as the need for storing electrical energy is increasing day by day. Lithium-ion (Li-ion) technology is better than other rechargeable battery technologies due to its performance characteristics. However, under unfavourable charging and discharging conditions and/or differences in internal parameters, Li-ion batteries tend to heat and degrade their performance which results in a reduced life cycle. The process of cell Balancing finds an important role in battery</p>	ADIL SHEIKH
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96	2083	JAIN,PRIYANSHU MANIAR,PALAK PATANGE,SNEHA SOMAVANSHI,ANUSH KA	SOLAR POWERED WATER PUMPING SYSTEM WITH INDUCTION MOTOR AND SUBMERSIBLE PUMP	ELEC	2022	<p>packs which takes the issue of cell imbalance into account. An active cell balancing circuit with an inductor as a storage element has been proposed in this study. The balancing of cells is carried out between four lithium-ion cells connected in series. This paper consists of a detailed study of the design and operation of the cell balancing circuit. An algorithm has been developed in stateflow and simulated on MATLAB.</p> <p>With the increase in demand for renewable energy due to the depleting non- renewable sources, our project proposes an efficient use of solar energy by operat- ing Photo-voltaic (PV) panels at the MPP or maximum power point for powering the water pump. The system proposed will implement the application to provide power from solar energy to pump with an induction motor drive by converting the DC electric power generated from a PV panel to AC power using the inverter. We use a data logger which collects all the electrical data from the pumps and stores it for the AI application. This data can be used as a Machine/Deep</p>	ADIL SHEIKH
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97	2082	KUMAR, VIJAY MEHTA, KINNARI PATEL, GRAHITA SOOR, SAMIKSHA	NON CONVENTIONAL EV'S	ELEC	2022	<p>Learning data-set to further predict future load demand or day-to-day load forecasting for efficient planning. This makes the technology both Sustainable and Modern hence it's application is recognised in the present as well as the future.</p> <p>The design simulation and control of renewable energy-based hybrid electric vehicles(HEVs)is introduced.The HEV design uses solar,wind to generate electricity with proton exchange membranes(PEMs)and super-capacitors (Scs)to meet strong torque requirements.The vehicle includes a battery pack and SC.As the car moves forward,the alternator connected to the turbine blades uses wind energy to rotate to generate electricity and charge the battery.The simulation takes into account the aerodynamic forces of the wind turbine and all its drag.This design aims to ensure zero carbon emissions,energy efficiency and portability,and is combined with those that use in-wheel motors to eliminate mechanical transmissions.To meet the energy demands of the vehicle,the energy selection is controlled by a rule-based monitoring controller that follows a logical sequence.When the vehicle is stopped,the SC is preferentially used as an energy source.The battery is the main power source and wind power and solar energy charge the battery.The controller also controls</p>	JOSNA JOSE
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98	2087	CHAUDHARI,BHAVIK GUPTA,VISHAL JADHAV,ASHWINI SHARMA,VIMLESH	V/F SPEED CONTROL OF INDUCTION MOTOR WITH SPWM TECHNIQUE	ELEC	2022	<p>the power flow of the generator to monitor regenerative braking and switch to solar charging when the vehicle is parked.</p> <p>Speed control techniques are generally essential in adjustable speed drive system which requires variable voltage and frequency supply which is invariably obtained from a three-phase Voltage source inverter. A number of pulse width modulation scheme is used to obtain variable voltage and frequency supply from an inverter, but Sine pulse width modulation technique (SPWM) has certain advantages over other modulation technique such as, controlled inverter output voltage, reduction of harmonics, it is less costly, it is easy to implement in circuits, it gives the best control of switches in a circuit, less calculation required as compare to space vector pulse width modulation technique (SVPWM) and the main advantage of SPWM is that power loss in the switching device is low over the other methods of Pulse width modulations. In this paper v/f speed control of three phase induction motor using sine pulse width modulation is demonstrated by using MATLAB/SIMULINK model.</p> <p>Keywords: Voltage source inverter (VSI), Pulse width modulations (PWM), Sine Pulse Width Modulation (SPWM), Three phase induction motor (3 phase I.M)</p>	MEGHA FERNANDES
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99	2173	VARTAK, AMOGH VARTAK, NISHAD YADAV, SUNNY THAKUR, VIRAJ	RECURRENT FEATURE REASONING BASED IMAGE INPAINTING USING CONSISTENT ATTENTION	EXTC	2022	The objective of image inpainting is to recover the missing information of a damaged image with generated data that makes the repaired image visually realistic. Existing inpainting methods have achieved promising results when it comes to small defects but struggle when it comes to filling large holes. They often produce ambiguous or semantically incorrect content when the missing region is large. The Recurrent Feature Reasoning (RFR) Network is able to efficiently solve this problem and generate semantically plausible and elegant results. The RFR module consists of three parts: an area identification module which identifies the area to be recovered, a feature reasoning module which infers the content in the identified area and a feature merging	RAVINDRA CHAUDHARI

100	2178	DHAKAN,HIRAL SHAH,JINAL SURANA,JAY	RESIDUAL DEEP NETWORK FOR AUTOMATED DETECTIONOF CHEST DISEASES	EXTC	2022	<p>module which merges the generated feature maps. Further,a Knowledge Consistent Attention(KCA) module looks for the texture in the background and uses it to replace textures in the holes ,hence enhancing the inpainted results.We have further proposed the use of VGG-19 architecture for image generation training to enhance the performance of RFR. Empirically,we first compare the proposed model with existing RFR-Net demonstrating that the proposed model is more efficient in terms of quantitative results and that it can also deal with large scale missing pixels and yet generate realistic results</p> <p>Covid-19 has been devastating for the world. It is critical to detect Covid-19 Cases as early as possible to prevent them from spreading. Also there is a lack of sophisticated centers and trained physicians for Covid-19 detection and cure in remote areas. The need for tools to detect Covid-19 cases efficiently has increased. Radiology images (X-rays, CT scans) have plenty of information about Covid-19 presence. Using advanced AI techniques combined with Radiology Imaging, assistive tools for detecting Covid-19 cases with high accuracy and speed can be developed to be deployed using the cloud and made available to everyone for</p>	SANTHOSH CHAPNERI
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101	2175	<p>BARBOSA, STEVE  YOHANNAN, MELVIN  ADHIKARI, GOKULANDA  DODIA, DARSHAN</p>	<p>AUTOMATIC  COMPONENT  SALVAGING FROM  WASTE PCBS</p>	EXTC	2022	<p>screening. The DarkCovidNet model can be used to classify between Normal, Pneumonia, and Covid and also binary classification (Normal, Covid) with relatively high accuracy. Our model produced a classification accuracy of 92.66% for Three classes and 98.25% for two classes. Using our trained model and website We can detect Covid-19 remotely.</p> <p>The Consumer Electronics Market has been booming at an ever increasing rate so is the demand for newer faster electronic devices. This increasing demand also creates massive electronic waste year by year. The problem with the majority of the E-waste can be recycled autonomously and at a greater pace. Our project aims at those specific components that are usually not damaged easily. This reduces the E-waste generated and also reduces the cost and material to make the same new component. The machine can desolder components from the PCB of size 12cm*12cm</p>	GAUTAM SHAH
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102	2198	RANA,SUMIT SAVALIYA,SIDDHARTH PAREKH,MANAV RAO,GAGANA	LI-FI AN ALTERNATIVE TO WI-FI	EXTC	2022	Li-Fi technology consists of an transmitter side and a photodetector on the receiver side.Li-Fi terms was first introduced by Professor Harald Haas at the TED Global Talk 2011.Li-Fi was a visual light spectrum for optical wireless communication.The range of visual spectrum ranges from 300 GHz to 700 GHZ.We have transmitted text and audio using optical wireless communication. The keypad is used as input.The Arduino converts the information into binary which is fed to the LED.In the receiver section,the LDR sensor receives the binary pulses from the transmitter side which are fed to Arduino.Arduino receives this pulse and converts it in to actual data and displays it on an LCD.For transmission of audio using Li-Fi the audio is used as input. The transmitter side consists of Led which detects the signal.On the receiver side,the photo transmitter detects the signal and passes them to an amplifier circuit. The amplifier amplifies the signal and the signal is passed to the loudspeaker. The LED and photodiode are optocoupled. The advantages of using an optocoupler are there is no interference,stable operation,and high transmission efficiency. We	JAYASUDHA KOTI
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103	2174	BARI,DANEESH BHANDARY,CHIRAG CHANDORKAR,HARSH	DESIGN AND ANALYSIS OF A MINIATURIZED UWB ANTENNA FOR WIRELESS CAPSULE ENDOSCOPY	EXTC	2022	<p>able to make one application of Li-Fi i.e.Fire detector using optical wireless communication,in which the LCD prints the Alert message and the LED will be 'ON' whenever the temperature crosses a threshold value</p> <p>Wireless capsule endoscopy provides visualization of the GI tract by transmitting images wirelessly from a disposable capsule to a data recorder worn by the patient.The first capsule model for the small intestine was developed by Given Imaging and approved in Western countries and approved by the Food and Drug Administration(FDA)in 2001.Over subsequent years this technology has been refined to provide superior resolution,increased battery life,and capabilities to view different parts of the GI tract.Before the introduction of</p>	UDAY PANDIT KHOT
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					<p>capsule endoscopy(CE)and double - balloon endoscopy(DBE), there was no effective modality for the evaluation and management of patients with obscure GI bleeding. Obscure GI bleeding is defined as bleeding of unknown origin that persists or recurs after a negative initial or primary endoscopy(colonoscopy or upper endoscopy)result.The first capsule endoscope model,which is now regarded as a first - line tool for the detection of abnormalities of the small bowel, was the PillCam SB.Our project aims to increase the speed of transmission and optimize the antenna to work within the permissible SAR limits as specified by the FCC</p>	
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