



**SRI VENKATESHWARA**  
**COLLEGE OF ENGINEERING**  
BENGALURU



**INFORMATION SCIENCE & ENGINEERING**  
**TECHNICAL MAGAZINE**  
**MIND SPARK IV**  
**2018-19**

## **INSTITUTE VISION**

To be a premier institute for addressing the challenges in global perspective.

## **INSTITUTE MISSION**

M-1: Nurture students with professional and ethical outlook to identify needs, analyze, design and innovate sustainable solutions through lifelong learning in service of society as individual or a team.

M-2: Establish State of the Art Laboratories and Information Resource centre for education and research.

M-3: Collaborate with Industry, Government Organization and Society to align the curriculum and outreach activities.

## **DEPARTMENT VISION**

Global Excellence with relevance in Information Science and Engineering Education, Research and Development.

## **DEPARTMENT MISSION**

M-1: Strive for academic excellence in Information Science and Engineering through student centric innovative teaching-learning process, competent faculty members, efficient assessment and use of ICT.

M-2: Establish Centre for Excellence in various vertical of Information Science and Engineering to promote collaborative research and Industry Institute Interaction through Life Long Learning.

M-3: Transform the engineering aspirants to socially responsible, ethical, technically competent and value added professional or entrepreneur through holistic education.

## **PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)**

### **PEO-1-KNOWLEDGE**

Information Science Graduates will have professional & technical career in inter disciplinary domains providing innovative and sustainable solutions using modern tools.

PEO-2-SKILLS Information Science Graduates will have effective communication, leadership, team building, problem solving, decision making and creative skills.

### **PEO-3-ATTITUDE**

Information Science Graduates will practice ethical responsibilities towards their peers, employers and society.

## **PROGRAMME OUTCOMES (POs)**

PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

## **PROGRAM SPECIFIC OUTCOMES**

PSO1 : Quick Learner: Ability to learn and effectively implement the Information Science and Engineering notions in less span of time using modern tools.

PSO2: Envision: Ability to visualize the operations of existing and future software applications.

## **PROJECT TITLE**

**“ANALYSIS OF TRAFFIC DATA FOR PREDICTION OF ACCIDENTS IN INDIA USING MACHINE LEARNING”**

## **ABSTRACT**

There can be seen several inventories in automobile industries to style and build safety measures for vehicles, but traffic accidents remain still ineluctable. There is variety of accidents prevailing altogether urban and rural areas. Road traffic injuries are sure and preventable, however sensible knowledge are vital to grasp the ways in which road safety interventions and technology may be with success transferred. Patterns committed completely different circumstances may be detected by developing associate correct prediction models which is able to be capable of automatic separation of varied accidental situations. Variety of accidents will vary supported several factors, our focus is going to be on age group, day or night, whether or not an operating day or a weekend, urban or rural areas, gender and sort of car. This classification is going to be helpful to forestall accidents and therefore develop safety measures. During this work we'll be taking true time traffic knowledge in India and analyst it, exploitation that we'll be classifying accidents supported the on top of mentioned attributes. Awareness of traffic injuries is insulating material normally public; we have a tendency to believe to accumulate most prospects of accident reduction exploitation low budget resources by exploitation machine learning algorithmic rule “Random Forest, Logistic Regression and KNN”.

## **STUDENT NAME**

SWATI SINDHU	1VE15IS052
SWETA SINGH	IVE15IS053
RAJU MAHATO	IVE15IS037

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## **PROJECT TITLE**

**“AI BASED DEVICE CONTROL USING IoT & GOOGLE ASSISTANT”**

## **ABSTRACT**

The Internet of Things (IoT) is the network of devices such as vehicles, and home appliances that contain electronics, software, sensors and connectivity which allows these things to connect, interact and exchange data. Artificial intelligence (AI) is the ability of a digital computer or computer- controlled robot to perform common task. In our project we combine both Internet of Things and Artificial Intelligence to control the devices in a room over an internet. Artificial Intelligence of social network like Google (Google Assistant) is used to process our voice to activate or deactivate the devices in the room. We use the word “OK GOOGLE” to give a command to the devices. We also develop an App through which the connectivity of the devices to the Google Assistant is made easier. We also use the cloud technology that makes us accessible from different places.

## **STUDENT NAME**

DHANUSH K	1VE15IS014
MANJUNATH A	1VE15IS027
NAMRATHA K	1VE15IS030
SAI KALYAN V	1VE15IS043

## **PROJECT TITLE**

### **REPLICATION AND DIVISION OF DATA IN CLOUD FOR OPTIMAL PERFORMANCE AND SECURITY**

## **ABSTRACT**

In cloud computing if there is the outsourcing data to the third-party administrative control, which directly or indirectly gives rise to the security concerns. The data compromise may occur due to attacks by other users and nodes within the cloud. Therefore, high security measures are required to protect the data within the cloud. However, the employed security strategy must also take into account the optimization of the data retrieval time. In this paper we propose Replication and division of data in cloud for optimal performance and security that collectively approaches the security and performance issues. In this methodology we mainly divide the file into fragment and replicate the fragmented data over the cloud nodes. Each of the nodes stores only a single fragment of a particular data file that ensures that even in case of a successful attack, no meaningful information is revealed to the attacker. Moreover, the nodes storing the fragments, are separated with certain distance by means of graph T- coloring to prohibit an attacker of guessing the locations of the fragments, furthermore this methodology does not rely traditional cryptographic techniques for the data security. Thereby relieving the system of computationally expensive methodologies.

## **STUDENT NAME**

KEERTHI G	1VE14IS018
SAMYUKTHA R	1VE14IS036
SRILAKSHMI V	1VE14IS043
SRINIDHI T S P	1VE14IS044

**PROJECT TITLE****AUTHENTICATION BASED SECURITY SYSTEM ANALYSIS****ABSTRACT**

Authentication based passwords is used largely in applications for computer security and privacy. However, human actions such as choosing bad passwords and inputting passwords in an insecure way are regarded as the “weakest link” in the authentication chain. Rather than arbitrary alphanumeric strings, users tend to choose passwords either short or meaningful for easy memorization. With web applications and mobile apps piling up, people can access these applications anytime and anywhere with various devices. This evolution brings great convenience but also increases the probability of exposing passwords to shoulder surfing attacks. Attackers can observe directly or use external recording devices to collect user’s credentials. To overcome this problem , we proposed a novel authentication system pass Matrix, based on graphical passwords to resist shoulder surfing attacks. With a one-time valid login indicator and circulative horizontal and vertical bars covering the entire scope of pass-images, pass matrix offers no hint for attacks to figure out to narrow down the password even they conduct multiple camera-based attacks.

**STUDENT NAME**

DEEAPNJALI P B	1VE15IS032
RASHMI C M	1VE15IS039
THEJUSHREE K	1VE15IS057
VAISHNAVI RAJU E T	1VE15IS058



## **PROJECT TITLE**

### **PREDICTION OF HEART DISEASES USING MACHINE LEARNING ALGORITHMS”**

#### **ABSTRACT**

The health care industry produces a huge amount of data. This data is not always made use to the full extent and is often underutilized. Using this huge amount of data, a disease can be detected, predicted or even cured. A huge threat to human kind is caused by diseases like heart disease. In this project report, we try to concentrate on heart disease prediction. Using machine learning techniques, the heart disease can be predicted. The medical data such as Blood pressure, hypertension, diabetes, cigarette smoked per day and so on is taken as input and then these features are modeled for prediction. This model can then be used to predict future medical data. The algorithms like K-nearest neighbor, Naïve Bayes are used. The accuracy of the model using each of the algorithms is calculated. Then the one with a good accuracy is taken as the model for predicting the heart disease.

#### **STUDENT NAME**

MANOJ	1VE15IS028
PAVAN KALYAN B N	1VE15IS034
PRERANA R	1VE15IS035
VINAY KUMAR K S	1VE15IS063

**PROJECT TITLE****REVIEW SPAM DETECTION USING MACHINE  
LEARNING****ABSTRACT**

Nowadays, a big part of people rely on available content in social media in their decisions (e.g. reviews and feedback on a topic or product). The possibility that anybody can leave a review provide a golden opportunity for spammers to write spam reviews about products and services for different interests. Identifying these spammers and the spam content is a hot topic of research and although a considerable number of studies have been done recently toward this end, but so far the methodologies put forth still barely detect spam reviews, and none of them show the importance of each extracted feature type. In this study, we propose a novel framework, which utilizes spam features for modeling review datasets as heterogeneous information networks to map spam detection procedure into a classification problem in such networks. Using the importance of spam features help us to obtain better results in terms of different metrics experimented on real-world review datasets from Yelp and Amazon websites.

**STUDENT NAME**

PALLAVI R	1VE15IS033
RESHMA B	1VE15IS040
SHILPA R	1VE15IS046

## **PROJECT TITLE**

### **DETCETION OF CYBER ATTACK USING MACHINE LEARNING**

#### **ABSTRACT**

Security attacks are becoming more prevalent as cyber attackers exploit system vulnerabilities for financial gain. The resulting loss of revenue and reputation can have deleterious effects on governments and business alike. Signature recognition and anomaly detection are the most common security detection techniques in use today. These techniques provide a strong defense. However, they fall short of detecting completed or sophisticated attacks. Recent literature suggests using security analytics to differentiate between normal and malicious user activities.

The goal of this research is to develop a repeatable process to detect cyber-attacks that is fast, accurate, comprehensive, and scalable. This model uses security analytics to complement existing security controls to detect suspicious server side log files. The process is linearly scalable and comprehensive; as such it can be applied to any enterprise environment.

#### **STUDENT NAME**

GAGANA SHREE M	1VE15IS017
RAMYA G	1VE15IS038
ROSHINI P	1VE15IS041

## **PROJECT TITLE**

### **LIVER DISEASE PREDICTION USING MACHINE LEARNING**

#### **ABSTRACT**

Data Mining is one of the most critical aspects of automated disease diagnosis and disease prediction. It involves data mining algorithms and techniques to analyze medical data. In recent years, liver disorders have excessively increased and liver diseases are becoming one-off the most fatal diseases in several countries. In this thesis, liver patient datasets are Investigate for building classification models in order to predict liver disease. This thesis: implemented a feature model construction and comparative analysis for improving prediction accuracy of Indian liver patients in three phases. In first phase, min max normalization algorithm is applied on the original liver patient datasets collected from UCI repository. In liver dataset prediction second phase, by the use of PSO feature selection, subset (data) of liver patient dataset from whole normalized liver patient datasets is obtained which comprises only significant attributes.

Third phase, classification algorithms are applied on the data set. In the fourth phase, the accuracy will be calculated using root mean Square value, root mean erro.alue.J48 algorithm is considered as the better performance algorithm after applying PSO feature selection. Finally, the evaluation is done based on accuracy values. Thus outputs shows from proposed classification implementations indicate that J48 algorithm performances (Il other classification algorithm with the help of feature selection with an accuracy.5.04%.

#### **STUDENT NAME**

KRISHNA CHIDRI	1VE15IS021
MOHITH K S	1VE15IS029
TARUN N VARMA	1VE15IS055
SUMANTH	1VE15IS050

## **PROJECT TITLE**

### **AUTOMATED STUDENT ATTENDANCE MANAGEMENT SYATEM USING FACE RECOGNITION**

## **ABSTRACT**

Attendance management system is a necessary tool for taking attendance in any environment where attendance is critical. Every institution has its own method of taking student attendance. Some institutions uses paper based approach and others have adopted automated methods such as fingerprint biometric techniques. However, most of the existing approach are time consuming, intrusive and it require manual work from the users. The aim of this project is to develop a less intrusive, cost effective and more efficient automated student attendance management system using face recognition. The face is the identity of a person. The methods to exploit this physical feature have seen a great change since the advent of image processing techniques. The attendance is taken in every schools, colleges and library. Traditional approach for attendance is professor calls student name & record attendance. The system described in this paper aims to deviate from such traditional systems and introduce a new approach for taking an attendance using image Processing. This paper describes the working of An Automatic Attendance System in a classroom environment. Initially) clip of classroom is taken and is stored in the database, then we apply Face detection techniques such asAda-boost algorithm to detect the faces in frames/images and then features are extracted of algorithm. The system first stores the faces of the students in the database. The detected faces are compared with the faces stored in the database during face recognition by using Machine Learning algorithms. If the system recognizes faces, the attendance gets marked immediately of recognized faces .keywords.

### **STUDENT NAME**

SAGAR B M	1VE15IS042
SHARATH R	1VE15IS045
SHIV SAGAR M S	1VE15IS047

**PROJECT TITLE****MR IMAGE CLASSIFICATION USING MACHINE  
LEARNING FOR BRAIN TUMOR TYPE****ABSTRACT**

The identification, segmentation and detection of infecting area in brain tumor MRI images are a tedious and time-consuming task. The different anatomy structure of human body can be visualized by an image processing concepts. It is very difficult to have vision about the abnormal structures of human brain using simple imaging techniques. Magnetic resonance imaging technique distinguishes and clarifies the neural architecture of human brain. MRI technique contains many imaging modalities that scans and capture the internal structure of human brain. In this study, we have concentrated on noise removal technique, extraction of gray-level co-occurrence matrix (GLCM) features, brain tumor region growing segmentation.to reduce the complexity and improve the performance. This was followed by morphological filtering which removes the noise that can be formed after segmentation. The probailstic.neural network classifier was used to train and test the performance accuracy in the detection of tumor location in brain MRI images. The experimental results achieved nearly 100%accuracy in identifying normal and abnormal tissues from brain MR images demonstrating .the effectiveness of the proposed technique.

**STUDENT NAME**

AROHI KUMARI	1VE15IS008
DANDU NAVYASHREE	1VE15IS013
EASHITHA S	1VE15IS016
MANISH KUMAR	1VE15IS026

**PROJECT TITLE****HASH BASED MULTIMEDIA CONTEXT DEDUPLICATION IN  
CLOUD****ABSTRACT**

The market for cloud back up services in the personal computing environment is growing due to large volume of valuable personal and corporate data being stored on desktops and laptops and Smartphone's. Source DE duplication has become a main stay of cloud backup that saves network bandwidth and reduces storage space. When uploading the data it will be converted into encrypted format so that there is no chance for uploading the duplicate data. In this paper we propose Application Aware DE duplication, to achieve high DE duplication efficiency based on a number of key observations drawn from our preliminary and experimental study of data DE duplication in the personal computing environment.

**STUDENT NAME:**

AKSHATHA R	1VE15IS005
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BHAVANA REDDY A	1VE15IS010
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## **PROJECT TITLE**

### **BLOCKCHAIN ENABLED E-VOTING**

#### **ABSTRACT**

Election Polling is a complex system as well as costly system. Here we are presenting a novel Secure, Privacy Preserving and cost-effective election polling concept which uses Internet Connectivity, Block chain Storage and Holomorphic encryption. This system has two applications one web-based application which is for Election Officer and another for Booth Manager & Users those who are going to poll. Election officer will act as an admin user and he must do the setting and configuration setting for election polling. Booth Managers are the area manages those who are responsible to add the voter's details into the system and has retrieval system by which they can able to view the voted candidate details and sum of the votes. The Votes are converted into encrypted data and stored in block chain Technology. A block chain, originally block chain, is a growing list of records, called blocks, which are linked using cryptography. Contents of the block include a cryptographic hash of the previous block, a timestamp, and transaction data.

#### **STUDENT NAME:**

JYOTIR MAYEE MISHRA	1VE15IS018
LOVELY PRIYA	1VE15IS023
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**PROJECT TITLE****PREDICTION AND ANALYSIS OF AIR QUALITY INDEX USING  
RANDOM FOREST****ABSTRACT**

Air Quality Has Been A Matter Of Concern, Particularly In Urban Areas. Awareness Of Air Pollution Levels Is Important To The People, Especially To Those Who Suffer From Illness Caused By Continuous Exposure To Air Pollution. To Improve Air Quality, People Need To Be Well-Informed About Local And National Air Pollution Problems. Therefore, A Effective Communication Of Air Quality Is Important. The Concept Of An Air Quality Index (AQI) That Transforms Weighted Concentration Of Individual Air Pollutants Into A Single Number Is Widely Used For Air Quality Communication And Decision Making. In Order To Predict The Air Quality Of Changing Environment, Machine Learning Approach Can Be Used Effectively. The Proposed Approach Uses The Real Time Information From: “Central Pollution Control Board.” National Air Quality Index In Order To Classify The Elements Present In Air As Good, Satisfactory, Moderately Polluted, Poor, Very Poor And Severe. This Labeled Data Set is Then Fed to Random Forest and Decision Tree Algorithm to Predict the AQI of a New Sample.

**STUDENT NAME**

SHAMBHAVI 1VE15IS044

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**PROJECT TITLE****FINE GRAINED TWO-FACTOR PROTECTION MECHANISM FOR  
DATA SHARING IN CLOUD STORAGE****ABSTRACT**

In This Project, We Introduce A New Fine-Grained Two-Factor Authentication (2FA) Access Control System For Web-Based Cloud Computing Services. Specially, In Our Proposed 2FA Access Control System, an Attribute-Based Access Control Mechanism is implemented with the Necessity of Both a User Secret Key and a Lightweight Security Device. As A User Cannot Access The System If They Do Not Hold Both, The Mechanism Can Enhance The Security Of The System, Especially In Those Scenarios Where Many Users Share The Same Computer For Web-Based Cloud Services. In Addition, Attribute-Based Control In The System Also Enables The Cloud Server To Restrict The Access To Those Users With The Same Set Of Attributes While Preserving User Privacy, But has no idea on the exact identity of the User.

**STUDENT NAME**

ABHISHEK	1VE15IS006
AMAN SINGH	1VE15IS001
NITIN TRIPATHI	1VE15IS031
ABHISHEK SINGH	1VE15IS003

**PROJECT TITLE****AGRICULTURE INTELLIGENCE DECISION SYSTEM USING LINEAR  
REGRESSION ALGORITHM****ABSTRACT**

Agriculture intelligent decision system has a positive practical significance for guiding agricultural production, which can provide scientific basis for agriculture. Big data analysis technology can effectively improve the performance of intelligent decision system. The research development of the agricultural decision system is introduced. The frame designation of the intelligent decision system is studied, and the design process is given. In recent years, the huge volume of real time data in the agricultural sector and its need for an efficient and effective processing, stimulate the use of novel technologies and platform to acquire, store, process, analyze and visualize large data sets for future predictions and decision making. Big data is an evolving term given to wide area of data-intensive technologies in which the datasets are extremely large that dealing with them becomes more challenging than how it was before. Due to the critical challenges facing the agricultural ones, in order to increase both economic and environmental costs.

**STUDENT NAME**

MALINI S	1VE15IS024
RAJESHWARI B S	1VE15IS036
THANEEM NOOR AYESHA M B	1VE15IS056

**PROJECT TITLE****PREFORMANCE ANALYSIS OF SUPERVISED LEARNING  
ALGORITHMS USING CONFUSION MATRIX ON IRIS DATA SET****ABSTRACT**

Confusion matrix plays an important role in describing the performance of classification models. The Iris data set contains three different classes namely Iris Setosa, Iris Vesicular and Iris Virginia. Using the confusion matrix accuracy for each classifier and statistical parameters like accuracy, precision, recall, support, micro avg, macro avg, and weighted avg can be obtained. The proposed algorithms gives a comparative study of the statistical parameters to show which classifiers performs better classification on the Iris data set.

Artificial neural network classifier algorithm performs better classification on Iris data set comparative to other two classifier algorithms K-Nearest neighbor and Support Vector Machines.

**STUDENT NAME**

P GAYATHRI PATIL

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