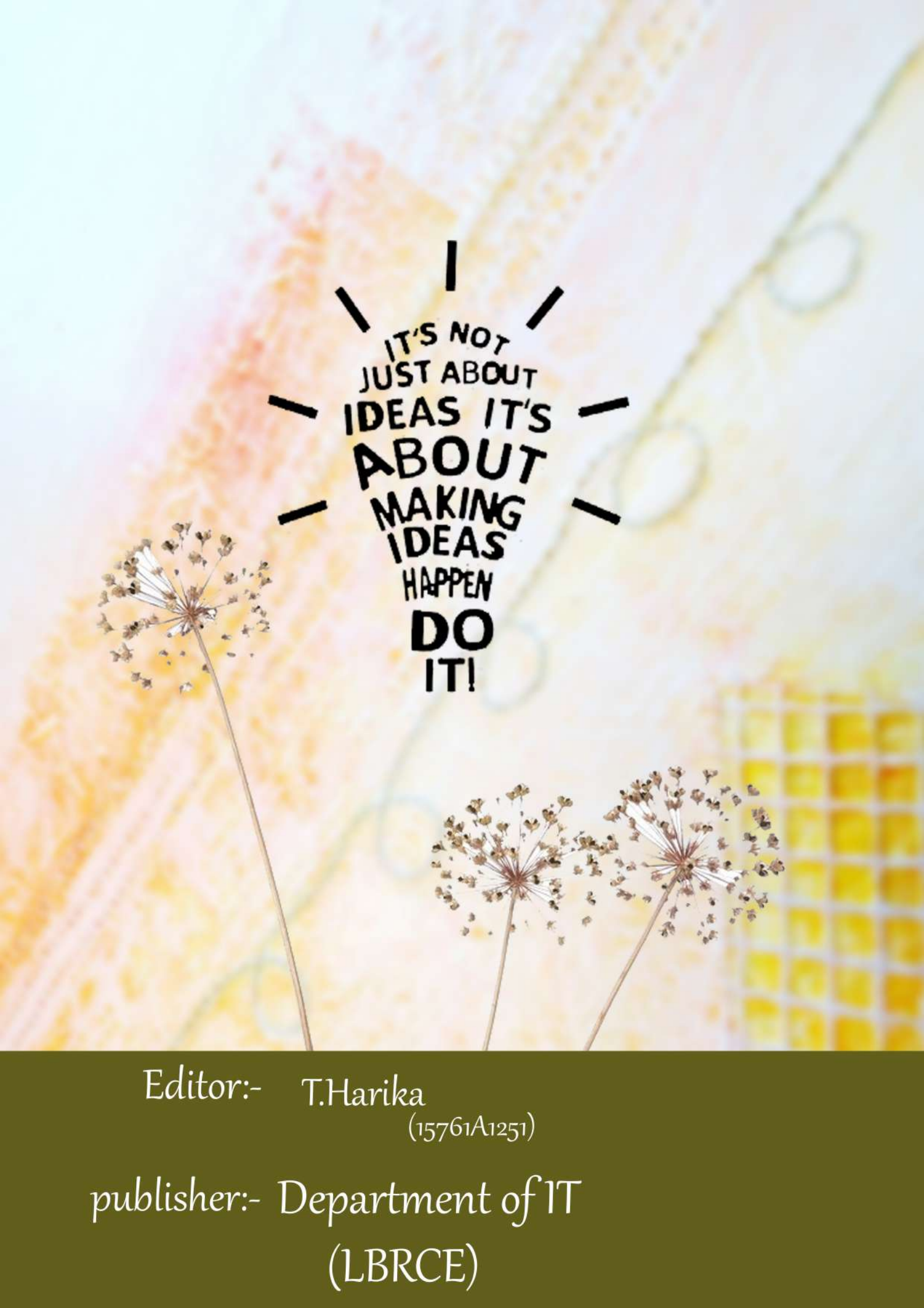


T TECH **E** ERA

STUDENTS TECHNICAL MAGAZINE





IT'S NOT
JUST ABOUT
IDEAS IT'S
ABOUT
MAKING
IDEAS
HAPPEN
DO
IT!

Editor:- T.Harika
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(LBRCE)

VISION AND MISSION STATEMENTS OF THE DEPARTMENT

DEPARTAMANET VISION

- To emerge as one of the most preferred department for the budding engineers, aspiring to be successful IT professionals

DEPARTAMANET MISSION

- **DM1:** To inculcate team skills and leadership qualities in the student through projects, seminars and group activities.
- **DM2:** To impart quality education with a well-designed curriculum, consistent with industry requirements, that equips the student to face the career challenges.
- **DM3:** To cultivate the qualities of social awareness and service to the humanity among students.
- **DM4:** To extend the student's learning beyond the curriculum, through workshops on cutting edge technologies

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Graduates of Information Technology programme will be:

- **PEO 1:** Pursue a successful career in the area of Information Technology or its allied fields.
- **PEO 2:** Exhibit sound knowledge in the fundamentals of Information Technology and apply practical experience with programming techniques to solve real world problems.

PEO 3: Demonstrate self-learning, life-long learning and work in teams on multidisciplinary projects.

PEO 4: Understand the professional code of ethics and demonstrate ethical behavior, effective communication, and team work and leadership skills in their job

PROGRAM OUTCOMES(POs):

Graduates of Information Technology programme will have the ability to:

1. Engineering knowledge:

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

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. Ethics:

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

9. Individual and team work:

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings

10. 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.

11. 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.

12. 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 (PSOs):

Graduate of the Information Technology will have the ability to

1. Organize, Analyze and Interpret the data to extract meaningful conclusions.
2. Design, Implement and Evaluate a computer-based system to meet desired needs.
3. Develop IT application services with the help of different current engineering tools.

About the Department

The department of Information Technology was established in the year 1999 with an intake of 40 seats in UG program. Student intake is increased from 40 to 60 in the year of 2001. It is the one of the most emerging programme in LBRCE. As IT plays a remarkable role in the almost all sectors, due to this the need of Information Technology Engineers increased who could gain knowledge in recent technologies. Our department is intended to train the students in elementary courses and cutting-edge technologies like Digital marketing, Social networking, Digital communication, Cloud computing, Android application, and Big data for solving many social and business problems.

Our future Software Engineers, Entrepreneurs, and Researchers are encouraged with inventive approach. We have an excellent infrastructure and advanced labs to expedite our students. The Department facilitates innovative practices such as student internships, mini and major projects to meet the requirements of employment, teaching-learning process and entrepreneurship. To upgrade the knowledge of students, department offers many tools and Software applications. The LBRCE-CSI students' chapter has been actively organizing events like Technical Seminars, Workshops and Guest lecturers.

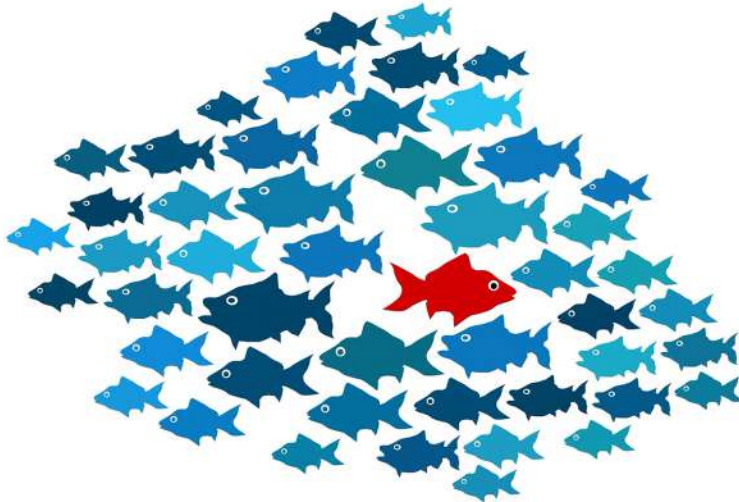
The Department has well qualified and experienced faculty. The department has 16 teaching faculty with 4 Doctorates and the rest with M.Tech. Four faculties are pursuing Ph.D in various Universities.

The faculties are engaged in research activities (including funded projects) in their areas of specialization to subsidize the knowledge transfer in their corresponding arenas. Numerous research papers have been published in National, International Journals and Conferences by our faculty and students.



FACULTY ARTICLES

Outliers Detection in Regression Analysis Using Partial Least Square Approach



An outlier is a data point which is significantly different from the residual data .The concept of an outlier formally defined as follows: “outlier is an observation which deviates so much from the other observations as to arouse suspicions that it was generated

by a different mechanism” . In data mining and statistics literature Outliers are also called as abnormalities, irregularities, defects, discordant, deviants, or anomalies. In many applications, the data is created by one or more generating processes, which could either reflect activity in the system or observations collected about entities. When the generating process behaves in an unusual way, it results in the creation of outliers. Thus, an outlier contains useful information about abnormal characteristics of the systems and entities, which impact the data generation process.

In data mining, one of the fundamental issue is a Outlier detection, specially it has been used to detect and remove anomalous objects from given data. Outlier occurs due to mechanical faults, changes in system performance, fraudulent behaviour, network intrusions or human errors . Most of such applications are high dimensional domains in which the data contain hundreds of dimensions. Outlier plays a major role in regression. It is important to differentiate between two types of outliers.

Outliers in the response variable represent model failure. Such observations are called outliers. Outliers with respect to the predictors are called leverage points. They can affect the regression model, too. Their response variables need not be outliers. A well-known supervised learning technique is Regression analysis, which deals with estimation of an output value based on input value. It can be used to solve classification problems, and application such as forecasting. Regression can be performed using many different types of techniques including neural networks. In actuality, regression takes a set of data and fits the data to a formula. This paper will provide an overview of regression methods and illustrate the use of the procedure to fit regression models and display outliers and leverage points. Partial least squares is a popular method for soft modelling in industrial applications. Partial least squares (PLS) is a method for constructing predictive models when the factors are many and highly collinear. The X- and Y-scores are chosen so that the relationship between successive pairs of scores is as strong as possible. In principle, this is like a robust form of redundancy analysis, seeking directions in the factor space that are associated with high variation in the responses but biasing them toward directions that are accurately predicted.



Dr.D.Nagaraju
Professor & HOD

Overview of Smart City Concept

Introduction

WHO in 2014 says two third of the world is on the way of rapid urbanization. This urbanization will contribute to economic, social as well as environmental change in the world. Economic change will lead to prosperity, social and environmental change which in turn takes us to the good health and well being of citizens. Many governments have initiated programs for digital, intelligent cities and smart cities. These three concepts of digital, intelligent and smart cities are interrelated and involve the use of Information and Communication Technology (ICT). Amongst these three the importance of smart city increases as people or citizens of that city and their wellbeing is at the core of this concept. Smart cities can transform working style and life of the people. All these things can be achieved by involving ideas of people to lead towards a smart city. Smart cities can be seen as a scope for putting together managing resources, way of living life, transportation, administration etc. “A city performing in a forward looking way in economy, people, governance, mobility, environment, and living, built on the smart combination of endowments and activities of self decisive independent and aware citizens” – Giffinger (2007) on smart city. The three important features of the smart city were identified as:

- Improve economic and political competence to enable social, cultural and urban development using networked infrastructures and ICT.
- Improving business.
- Societal and ecological balance for social unity and environment friendliness All these things are possible when intelligent and well managed steps are taken towards achieving the goal.

Each and every person, organization business, administrative department should be a part of this creativity and to handle the resources intelligently.

Firstly the need of smart city is to have intelligent people who will support innovations and will continue in this process. Secondly, citizens of that city will have to change them for improving quality of life as well as they should be aware of social and ethical responsibilities. Thirdly, lifelong learning for managing natural resources optimally will lead towards human capital development. All these aspects require participation in governance, human resource development, ICT infrastructure growth, improving communication infrastructure and digitally sound environment. Working towards a smart city can be possible by taking steps accordingly. Like educating citizens, involving politicians, defining its importance, identify problems and fix them, use cost effective supplies, water management, and efficient transportation. For a smart city the engagement of citizens' is very important. Their feedbacks and suggestions related to various resources provided to them will help to identify the demand and supply statistics. Citizens' suggestions regarding technology, networking, transportation, and water resources will help improve and plan a smart city in aright way. The planning for handling theproblems identified from these surveysneed to be studied and worked outaccording to the geographical, political,and economical condition of the city.

Features of a Smart City

Efforts need to be taken to make citizens digitally sound by providing broadband and Wi-Fi. As the use of information technology will make the process faster. A smart city should be well equipped with roads for vehicles as well as pedestrians. There should be a provision of separate road for bicycle riders. City should be well connected with bus, rail and air. Transportation facilities within city should be timely and frequent.

Dedicated public transport facility is the need of the era. If people use their own vehicles to travel in the city, then the fuel consumption will be more,

the traffic jams will be increased, pollution will be increased ultimately increasing the living cost of an individual. Obviously, there will be less rainfall and the planet will get heated causing harmful results to human life. Water management is an important issue in urban development. 100% urban households did not have access to tap water. This condition is to be tackled by proper distribution of water to domestic and industrial users as well as farmers in the nearby area. Water also plays an important role in energy generation where it can be reused. Waste water treatment plant must be installed.

Another important issue is sewage and sanitation where many of the households do not have any drainage facility. The municipality should strive to provide it. Sewage treatment plants need to be installed.

Renewable energy generation is also the need of a smart city to manage energy used. Biogas, liquid bio fuel, solid biomass and sun energy can be an efficient alternative. City energy consumption is to be monitored to get a clear idea of the energy requirement of the city. The energy consumption made by various services like public lights, traffic lightening etc. needs to be monitored.

Monitoring traffic congestion using sensors and GPS installed on vehicles. The information produced by the sensors is very useful for maintaining discipline in traffic and to schedule a trip to office or shopping on a planned route. Noise monitoring can be carried out to measure the noise produced at specific period causing noise pollution. Since noise pollution can cause harm to health of the citizens.

Waste management can be carried out by segregating disposable and non disposable waste. Efforts need to be taken to separate the waste and convert the disposable waste into organic fertilizers which will give economical and ecological benefit.

Health of historical buildings and their maintenance with continuous monitoring can increase the life of these historical monuments.

Installation of sensors to sense noise, air pollution, building stress, vibration, and humidity will help retain these monuments.

Parking the vehicles while on the go is creating a nuisance on the streets with the increased number of vehicles. Smart cities can provide a smart solution to this using the concept of smart parking. Smart parking will provide faster parking location without having to waste more fuel and in turn generate less CO₂.

Smart lighting will reduce the wastage of electricity where the public lights are not switched off after their use. The sensors used for smart lighting will sense the day and night and switch the lights on and off.

To achieve the things efficiently of urban area, existing shortfalls in infrastructure and services are to be tackled and provision has to be made for providing future needs. The financial requirements for improving the cities as well as systematic urban growth and expansions are huge.

Lastly as said by Jane Jacobs, **“Cities have the capability of providing something for everybody, only because, and only when they are created by everybody”**.



Dr.S. Naganjaneyulu
Professor

Software Bug prediction using machine learning Techniques

Software Bug Prediction (SBP) is an important issue in software development and maintenance processes, which concerns with the overall of software successes. This is because predicting the software faults in earlier phase improves the software quality, reliability, efficiency and reduces the software cost. However, developing robust bug prediction model is a challenging task and many techniques have been proposed in the literature. This paper presents a software bug prediction model based on machine learning (ML) algorithms. Three supervised ML algorithms have been used to predict future software faults based on historical data. These classifiers are Naïve Bayes (NB), Decision Tree (DT) and Artificial Neural Networks (ANNs). The evaluation process showed that ML algorithms can be used effectively with high accuracy rate. Furthermore, a comparison measure is applied to compare the proposed prediction model with other approaches. The collected results showed that the ML approach has a better performance.

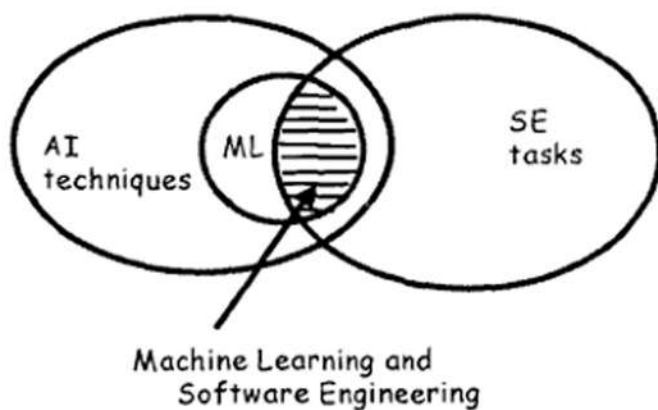


Fig: The relationship between machine learning and software engineering

The study aims to analyze and assess three supervised Machine Learning algorithms, which are Naïve Bayes (NB), Artificial Neural Network (ANN) and Decision Tree (DT). The study shows the performance accuracy and capability of the ML algorithms in software bug prediction

and provides a comparative analysis of the selected ML algorithms. The supervised machine learning algorithms try to develop an inferring function by concluding relationships and dependencies between the known inputs and outputs of the labelled training data, such that we can predict the output values for new input data based on the derived inferring function. Following

Following are summarized description of the selected supervised ML algorithms:

Naïve Bayes (NB): NB is an efficient and simple probabilistic classifier based on Bayes theorem with independence assumption between the features. NB is not single algorithms, but a family of algorithms based on common principle, which assumes that the presence or absence of a particular feature of the class is not related to the presence and absence of any other features .

Artificial Neural Networks (ANNs): ANNs are networks inspired by biological neural networks. Neural networks are non-linear classifier which can model complex relationships between the inputs and the outputs. A neural network consists of a collection of processing units called neurons that work together in parallel to produce output. Each connection between neurons can transmit a signal to other neurons and each neuron calculates its output using the nonlinear function of the sum of all neuron's inputs.

Decision Tree (DT): DT is a common learning method used in data mining. DT refers to a hierarchal and predictive model which uses the item's observation as branches to reach the item's target value in the leaf. DT is a tree with decision nodes, which have more than one branch and leaf nodes, which represent the decision.



Dr.Rama Devi Burri
Associate professor

Framework For Monitoring Healthcare Monitoring

A framework for monitoring healthcare monitoring of college students using Machine Learning and Data Analytics

The idea is to maintain a database of records of students visiting healthcare facility at their respective college or university. The items of interest include student details like Gender, age, State, Problem and prescription given by the doctor. This will be an active database that will be live and growing every day. The proposed framework will provide an interface to every college to upload records of student visits at their respective health centres. On this database, data mining and machine learning techniques can be applied to extract hidden patterns. Also, the proposed system will be able to generate different kinds of reports as per the needs of the different stake holders.

The input to the system will be details of the students visiting healthcare centres at their respective colleges or universities. This data will be uploaded to a central server to develop an integrated database. This database will be growing on daily basis with new records being added to it. Using data analytics and machine learning algorithms, models will be developed to extract patterns of interest and subsequently help in healthcare prediction and corrective strategies.

Outcomes of the proposed system

- Database of medical records:**
- Research Opportunities:**
- Extraction of Medical Knowledge:**
- Foreseeing the future:**

- Programme of study versus health:
- Scope for Self-learning algorithms:
- For regulatory authorities:
- Impact on the College or University:

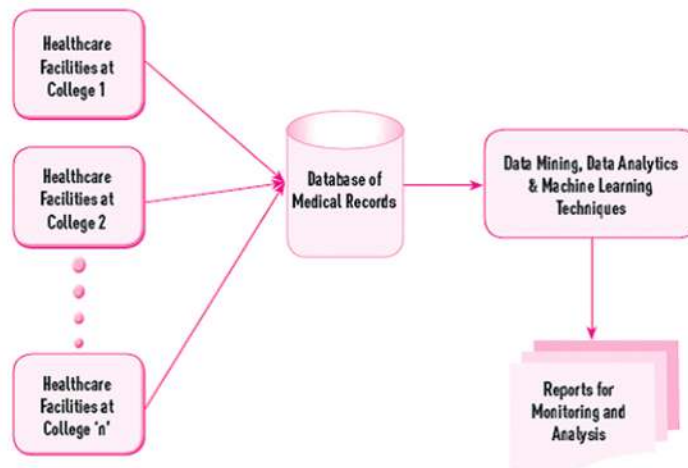


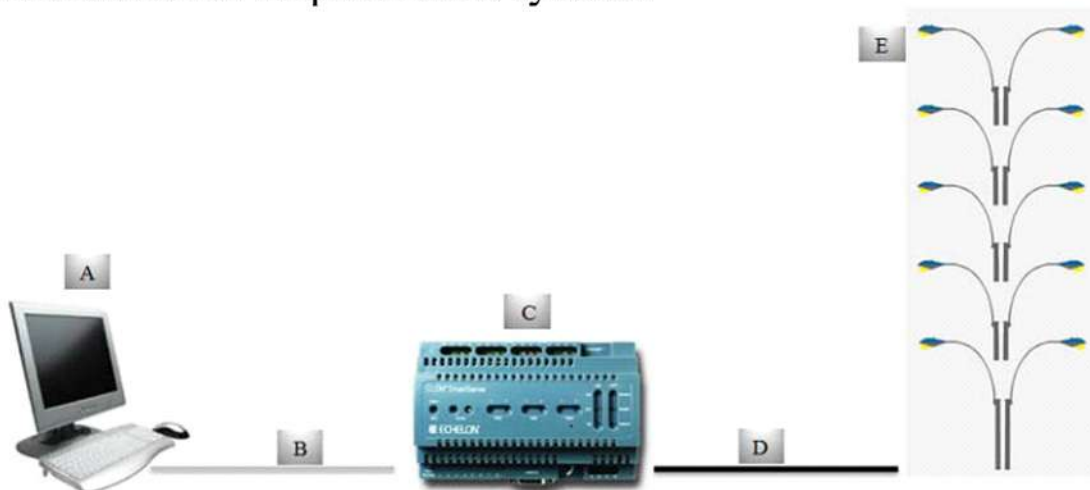
Fig. 1 : Block Diagram of working of the proposed system



Lavanya Kampa
sr.Assit.professor

Design of a Cloud based Intelligent Street lighting system in smart cities

In this modern era where energy is a major concern worldwide, it is our prior responsibility and liability to save energy effectively. With the revolution of technology where computerization system plays a vital role in daily life experience and it is being preferred over the traditional manual system today. Here we introduces the advance of energy consumption. Increase in population and additionally the corresponding increase of roads has inflated the quality of street light-weight, for the roads and people's safety, that rises investment and energy. However fully totally different approaches are being planned for making systems energy economical and upgraded with latest technology. This article includes form of intelligent street light-weight system victimization local area network module. Here the use of IR device and LDR device. It consists of a client-server application and works supported weather and the primary motive behind implementing this project is many |to avoid wasting lots of the energy in fashionable technical approach. An automatic street light-weight system victimization sensors and wireless modules for implement a system.



Proposed system consists of LDR, relays, microcontroller, temperature & humidness sensing element, and a few electronic parts. One system is capable of dominant four to eight lights and it may also monitor the temperature and humidness of that individualspace.

Here we tend to use cost-efficient ESP-12 Wi-Fi module. Arduino microcontroller is employed to regulate the relays and to fetch the info from the sensors to the info through Wi-Fi module. The complete system is monitored and controlled by a central system through an internet interface. A central info is formed to fetch information from all individual systems which may at the same time management up to eight lights. The traditional lamp is replaced by good semiconductor diode lightweight technology that consumes low power and provides high-intensity. This project provides a much better answer for Street light management and automation.



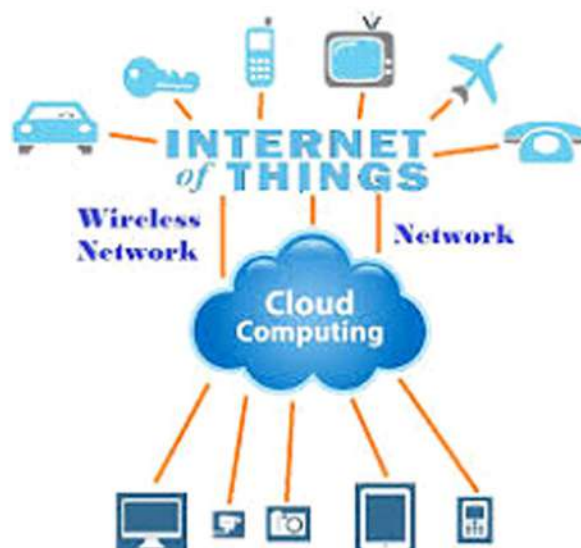
Sikhinam Nagamani
Assistant Professor

Cloud Computing with IOT

Many IoT systems makes use of large numbers of sensors to collect data and then make intelligent decisions. Using the cloud is important for aggregating data and drawing insights from that data. For instance, a smart agriculture company would be able to compare soil moisture sensors from Kansas and Colorado after planting the same seeds. Without the cloud, comparing data across wider areas is much more difficult.

Using the cloud also allows for high scalability. When you have hundreds, thousands, or even millions of sensors, putting large amounts of computational power on each sensor would be extremely expensive and energy intensive. Instead, data can be passed to the cloud from all these sensors and processed there in aggregate.

For much of IoT, the head of the system is in the cloud. Sensors and devices collect data and perform actions, but the processing/commanding/analytics (aka the “smart” stuff), typically happens in the cloud



So is the cloud necessary for IoT?

Technically, the answer is no. The data processing and commanding could take place locally rather than in the cloud via an internet connection. Known as “fog computing” or “edge computing”, this actually makes a lot of sense for some IoT applications. However, there are substantial benefits to be had using the cloud for many IoT applications. Choosing not to use the cloud would significantly slow the industry due to the increased costs.



Anupriya Koneru
Assiatant Professor

Tableau

Tableau is a powerful business intelligence and data visualization tool that has a very intuitive user interface. You don't need any coding knowledge to work with Tableau. It is very useful in drilling-down data, creating insightful reports and garner actionable business insights.

Smart, strategic and real time decision making is a must and a very crucial factor in the development of any organization. In the early days that was done by revising and analyzing documented reports comprising all the data but in the recent years data visualization became popular. It made the whole decision making process more efficient and better by helping understand the data better, grasp concepts and identify patterns.

Visualizing the data in pictorial or graphical form increases the productivity. It's pretty clear that using charts, graphs or images to visualize and study the data is way easier and interesting than just poring over the reports and spreadsheets again and again.

Coming to the business Intelligence part, let's understand what role Tableau plays in it and how tableau has taken over the world of business intelligence.

Decisive Factor

How Tableau Wins?

Technical Knowledge	No need for any prior technical knowledge in order to use tableau.
Connecting to data sources	Tableau connects to all kinds of data sources, be it MS Excel, data warehouses or web data etc.
Speed	Coming up with interactive, visual data presentation in mere seconds rather than months or years.

Data Visualization

Highly evolved data visualization provides number of ways in which data can be studied to benefit and empower the businesses' growth.

Gaining insights

It generates visually engaging business insights.

Ease of use

Tableau is a simple drag and drop interface which makes it easy to learn and operate.

Source: <https://intellipaat.com/blog/what-is-tableau/>



Mr. Michael sadgun Rao Kona
Assistant professor

INTERNET BOT

An internet bot, also known as web robot, WWW robot or simply bot, is a software application that runs automated tasks (scripts) over the Internet. Typically, bots perform tasks that are both simple and structurally repetitive, at a much higher rate than would be possible for a human alone. The largest use of bots is in web spidering (web crawler), in which an automated script fetches, analyzes and files information from web servers at many times the speed of a human. More than half of all web traffic is made up of bots

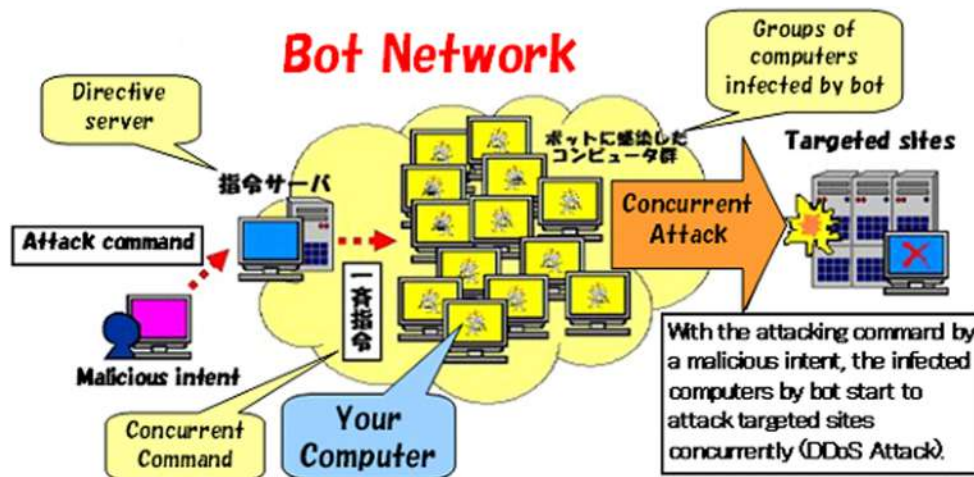


Chart 1-1: Threat of bot network

The term Bot is derived from the word "Robot". Robot comes from the Czech word "robot," which means "worker". In computer world Bot is a generic term used to describe an automated process. Bots are being used widely on the Internet for various purposes. Bot functionality may vary from search engines to game bots and IRC channel bots. Google bot is one such famous search bot, which crawls through the web pages on the net to collect information and build database to enable variety of searches. Computer controlled opponents and enemies in multiple player video games are also a kind of bot, where the computer process tries to emulate the human behavior.

However, the usage of bots is not limited to good purpose only. Bots are widely used To perform malicious activities ranging from information stealing to using as a launching pad for distributed attack. Such software's gets installed on user computer without their knowledge. Some bot infected machines, pass the control of the machine to a remote attacker and act as per the attackers command. Such machines are popularly known as zombie machines.



K. Rajasekhar
Asst. Professor

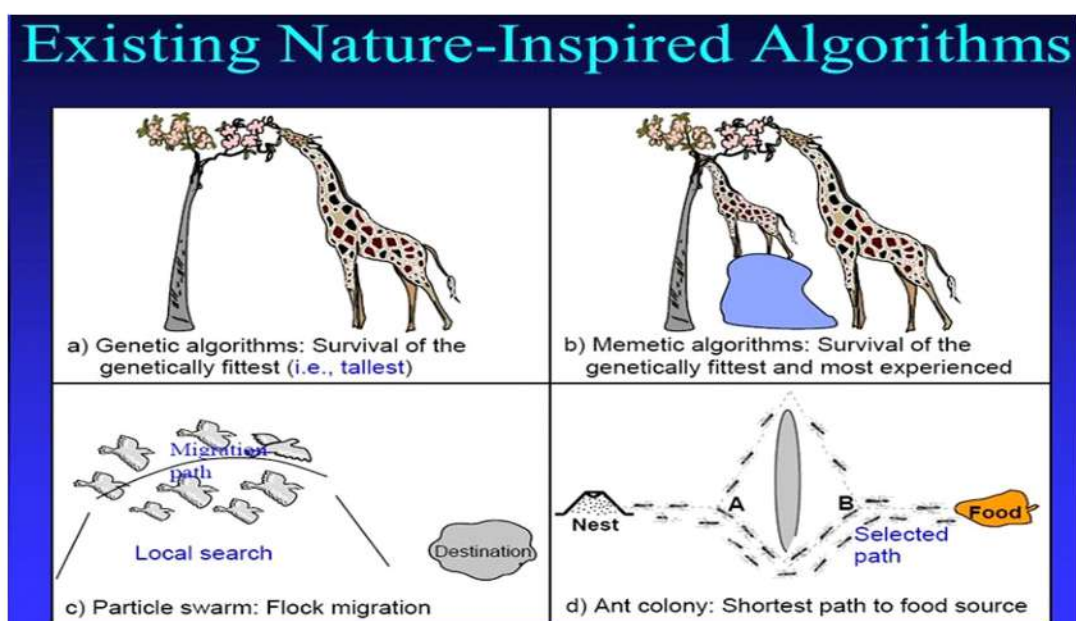
also assign a same name to all the malware. By this new samples can be easily included in the known family, then this reduces the effort required to analyse and to detect the malware. Using clustering we can include the new samples into the known family of the malware based on the features. We can analyse the features of malware using static and dynamic analysis. We use the dynamic analysis technique which uses the behavioural features to cluster the malware. Here we find the similarity in behaviour between two malwares. To know the behaviour of the malware. Each malware sample is executed in CWSandbox to get the behavioural report. This report consists of list of system calls that are invoked by each malware at the time of execution. Next by using weka tool we apply k-means clustering to group the malware samples into number of subsets. Here we consider the fact that the malwares with similar behaviour are closer than the malware which does not have the similar behaviour, then we assign a single character to each and every system call, and then each malware sample is represented as set of strings. Then we find the common substring that is present in the each set of string. Based on these common substrings for each malware we can find the common behaviour in the cluster. We divide the cluster till we get the common behaviour above the threshold value.



Sarvani Anandarao
Assistant Professor

Nature Inspired Optimization Techniques for Image Processing

Nature inspired optimization techniques play a key function in the field of engineering, business, industrialized designs, image processing and so on. The main objectives of nature inspired optimization technique are to increase the productivity gain, efficiency, accomplishment and so on, and to underrate the energy use, cost, size and so forth. Digital Images are viewed as a group of picture element, and each picture element containing few values to represent visual property, illumination, to need. Generally, image processing defines refine/manage/transfer an image. Also, it uses various algorithms to improve the nature of the image, to obtain confidential data. Nature-inspired optimization techniques play an essential role in image processing. It reduces the noise and blurring of images and also improve the image enhancement/image restoration/image segmentation/image edge detections/image generation/image fusion/image pattern recognition/image thresholding.



A lot of special approaches were received to perform various works on the image. In recent times various new techniques and algorithms are popularized which are motivated from the nature. The keys which are best surrounded by massive group of solutions are forwarded after formation or after iteration step and inactivity is not needed. The recent algorithms are very effective compared to early Nature Inspired Algorithms. These algorithms have been reached extensive popularity in recent years to handle many tough real world optimization problems. All these comes under the category of meta-heuristics algorithms. Several nature inspired optimization algorithms have been developed and studied so far. They are, Genetic Algorithm (GA), Simulated annealing (SA), Artificial immune systems (AIS), Boids, Tabu Search, Memetic Algorithm (MA), Ant Colony Optimization Algorithm (ACO), Cultural Algorithms (CA), Particle Swarm Optimization (PSO), Self-propelled Particles, Differential Evolution (DE), Bacterial Foraging Optimization, Harmony Search (HS), Marriage in Honey Bees Optimization (MBO), Artificial Fish School Algorithm, Bacteria Chemotaxis (BC) Algorithm, Social Cognitive Optimization (SCO), Artificial Bee Colony Algorithm, Bees Algorithm, Glow-worm Swarm Optimization (GSO), Honey-Bees Mating Optimization (HBMO) Algorithm, Invasive Weed Optimization (IWO), Shuffled Frog Leaping Algorithm (SFLA), Central Force Optimization, Intelligent Water Drops algorithm, River Formation Dynamics, Biogeography-based Optimization (BBO), Roach Infestation Optimization (RIO), Bacterial Evolutionary Algorithm (BEA), Cuckoo Search (CS), Firefly Algorithm (FA), Gravitational Search Algorithm (GSA), Group Search Optimizer, League Championship Algorithm (LCA), Bat Algorithm, Bumble Bees Mating Optimization (BBMO) Algorithm, Eagle Strategy, Fireworks algorithm for optimization, Hunting Search, Altruism Algorithm, Spiral Dynamic Algorithm (SDA), Strawberry Algorithm, Artificial Algae Algorithm (AAA), Bacterial Colony Optimization, Differential Search

Vortex Search Algorithm, Water Wave Optimization, collective animal behavior CAB algorithm, Bumble bees mating optimization (BBMO), Parliamentary optimization algorithm (POA), Artificial Chemical Process Algorithm, Artificial Chemical Reaction Optimization Algorithm, Bull optimization algorithm, Elephant herding optimization (EHO). All the nature inspired optimizations falls under two main classification namely Evolutionary Algorithms and Swarm Intelligence Algorithms.



K.RAVITEJA
Asst. Professor

Make friendship with your Machine: (The HUMachine)

Artificial intelligence (AI) is about autonomous learning and mimics the way a human brain learns: looking for patterns within large amounts of data, such as speech, images, text, or anything else. And, just as neuroscientists do not yet know exactly how the brain works, data scientists also often struggle to explain how AI works.



Fade your fear from automation:

Few examples which led the process automated

There are many examples in which machines automate the process that humans do, like simplify hiring processes, from sorting resumes to scheduling interviews. This technology-led process casts a wider net for talent and covers more volume in lesser time than humans can. Besides, it targets not just active jobseekers but even passive talent— those who haven't even thought of quitting their jobs yet.

And connecting with them is merely a matter of clicking a button. It's not that workers have nothing to fear from automation, but rather that companies will have a fair amount of choice over what they want to do with the extra efficiencies that technology will bring.

"Journalists, beware!" is a story about a Google-funded software project that aims to automate local news articles. Similar warnings have been given to other knowledge workers: Investment bankers aren't safe. Auditors aren't safe. Insurance brokers aren't safe. Therapists aren't even safe. Nobody's job is safe from the machines. This was supposed to be the point of Hammond's computer science for journalist's course. "You have to use technology to do what you want to do,". "The more you know how to use the technologies and the more you understand what you want, the better the world will end up being." And, on a positive side, "Something you're in partnership with doesn't replace you."

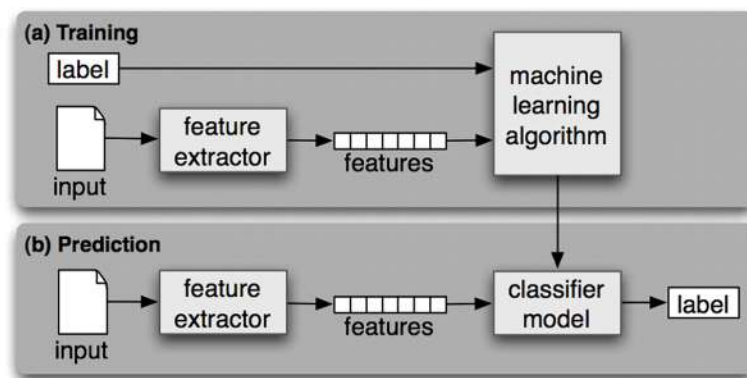
I hope it's right. The future abstractions and models are far beyond our comprehension. In 20 years, everything quantifiable especially in finance and investment will be the robots' domain. But at the same time, trust will become the ultimate currency. The rise of AI robots in our industry will—ironically and necessarily-rehumanize what we do.



Dr. B. Srinivasa Rao,
Professor

Machine Learning Is Bad at Context

Machine learning is amazing at many tasks. Our most advanced algorithms can process and understand data faster than any human ever could, and we're even to the point where they can beat our best players at some of the most complex games in existence. But even with all its inherent advantages, and even with a near-constant pace of development over the past couple of decades, machine learning is still glaringly bad at one crucial element: context.



Examples of the Context Problem

Machine learning algorithms can quickly process data, and can provide answers for some of our most complicated questions. But it's much harder to create a program that can recognize the context for those questions and answers.

It's easier to think about it in terms of examples:

□ **The upside-down image.** We have computer programs that can detect whether or not an image has been altered based on unexpected changes or patterns embedded in the image at a granular level. But those same algorithms find it hard to determine whether an image is upside-down—whereas a human would pick this up immediately.

□ **Driving a car.** Self-driving car technology utilizes many detection methods, including radar, LIDAR, and traditional video cameras. Even so, it's hard for it to determine whether that object in front of it is a human being—or just a shrub that has a similar outline. Flight controls, which are becoming □ increasingly important for consumer safety, don't require the same attention to surroundings—but still rely on massive levels of data processing.

□ **Sarcasm.** Though we've yet to experience this problem firsthand, natural language algorithms and chatbots have a tremendous amount of difficulty recognizing and responding to sarcasm, since they're naturally programmed to take the things we say at face value.

What We Can Do to Solve the Problem

So what can we do to solve the problem?

□ **Multi-INT analysis.** One of the most popular approaches to solving the problem is multiple intelligence (Multi-INT) analysis. As the name suggests, this is a process that depends on forming conclusions based on inputs from multiple, distinct sources. A program would hypothetically be able to call on multiple different algorithms to determine different elements of a different situation, then use a “master” process to stitch them together into a coherent conclusion. That way, you don't have to “teach” a machine how to recognize human faces. Instead, you can teach it to recognize eyes, ears, and noses, then indicate a face when all three are present.

□ **Sub-problems (and new tools).** We're also addressing the problem of context by specializing in specific instances of the problem. Rather than tackling the challenge directly, we're studying sub-problems and creating new tools that can be applied to broader contexts. For example, natural language processing is attempting to bring more intuitive dialogue in conversations between humans and machines; companies can then use existing natural language tools to enhance their own products, which may otherwise lack nuance.

□ **Sub-problems (and new tools).** We're also addressing the problem of context by specializing in specific instances of the problem. Rather than tackling the challenge directly, we're studying sub-problems and creating new tools that can be applied to broader contexts. For example, natural language processing is attempting to bring more intuitive dialogue in conversations between humans and machines; companies can then use existing natural language tools to enhance their own products, which may otherwise lack nuance.

□ **Results-oriented training. Finally,** we should stop emphasizing the process of "teaching" a machine how to recognize a pattern the conventional way—with tons of upfront data, or rules that dictate what constitutes a positive result. Instead, we're forced to allow machines to learn on their own, letting them make mistakes and correcting them as necessary until they develop their own rubrics for evaluating a situation.



K.Purushottama Rao
Assistant professor

Cloud-based Data Stream Processing



Data stream processing system executes a set of continuous queries over a potentially unbounded data stream. Thereby, the system constantly outputs new results on the fly. Typical use cases include financial trading and monitoring of manufacturing equipment or logistics data. These scenarios require a high throughput and a low end to end Latency from the system, despite possible fluctuations in the workload. In the last decade, a large number of different academic prototypes as well as commercial products have been built to fulfill these requirements.

In general, datastream processing systems can be divided into 3 generations: First generation stream processing systems have been built as stand-alone prototypes or as extensions of existing Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage, and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honoured. For all other uses, contact the Owner/Author..

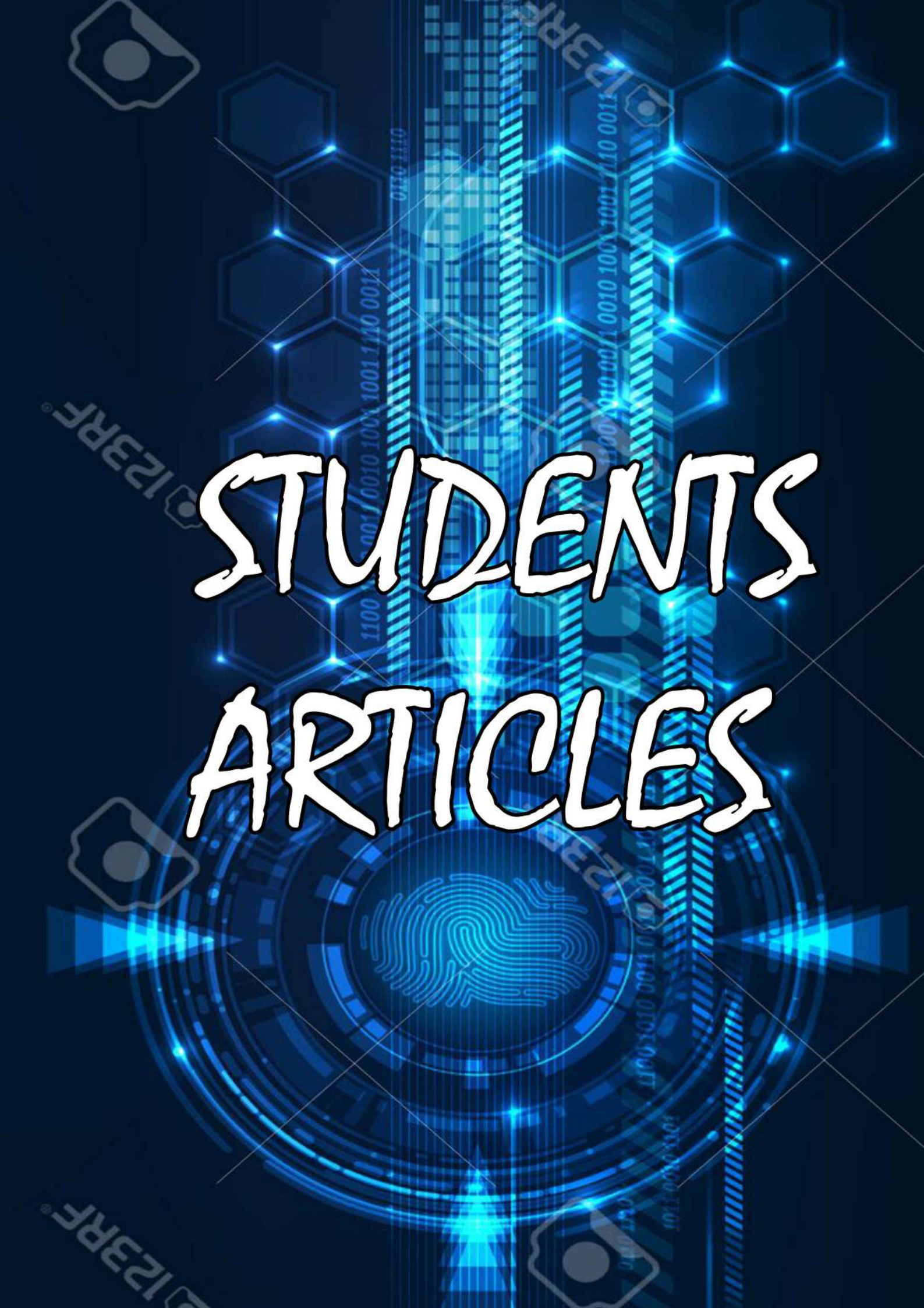
They were developed with a specific use case in mind and are very limited regarding the supported operator types as well as available functionalities. Representatives of this generation include Niagara, Telegraph and Aurora. Second generation Systems extended the ideas of datastream processing with advanced features such as fault Tolerance, adaptive query processing, as well as an enhanced operator expressiveness.

Important examples of this class are Borealis, CEDR, Systems and CAPE. Third generation System design is strongly driven by the trend towards cloud computing, which requires the Data stream processing engines to be highly scalable and robust towards faults. Well-known systems of this generation include Apache S4, D-Streams, Storm and Stream Cloud. IN this tutorial we illustrate the research trends for the third Generation of data stream processing engines. We describe the key requirements, which led to the development of this new generation of systems. In addition, we present detailed

Technical insights as well as future research directions. The focus of this tutorial is on three key differentiators to previous research: the intended use case, the used scaling mechanisms and the provided fault tolerance mechanisms. We present how the data stream processing System allows a user to scale out to hundreds of processing nodes, and ensures a fault tolerant execution even in an error-prone environment. We highlight key achievements in Recent research and outline the difference to traditional DataStream processing systems. In the following, we first illustrate the use cases that drove the design of cloud-based data stream processing. Afterwards, we detail state of the art techniques for both Scalability and fault-tolerance of a data stream processing engine finally, we illustrate Possible directions for future research.



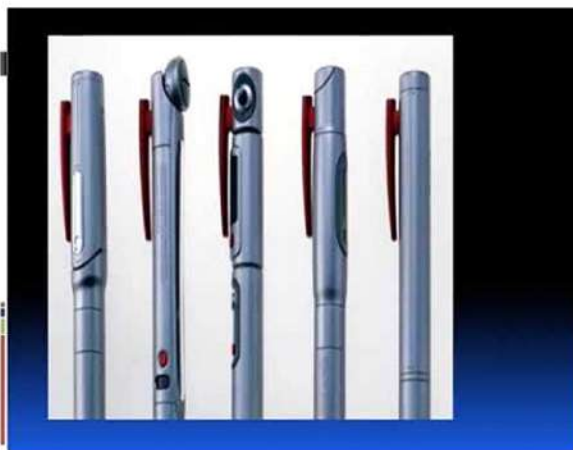
Ms.Kallam Hemanthi
Assistant Professor



STUDENTS
ARTICLES

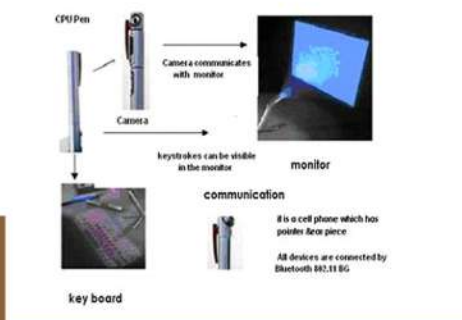
5-PEN PC TECHNOLOGY

P-ISM (“Pen-style Personal Networking Gadget Package”), which is nothing but the new discovery, which is under developing, stage by NEC Corporation. P-ISM is a gadget package including five functions: a pen-style cellular phone with a handwriting data input function, virtual keyboard, a very small projector, camera scanner, and personal ID key with cashless pass function. P-ISM’s are connected with one another through short-range wireless technology. The whole set is also connected to the Internet through the cellular phone function.



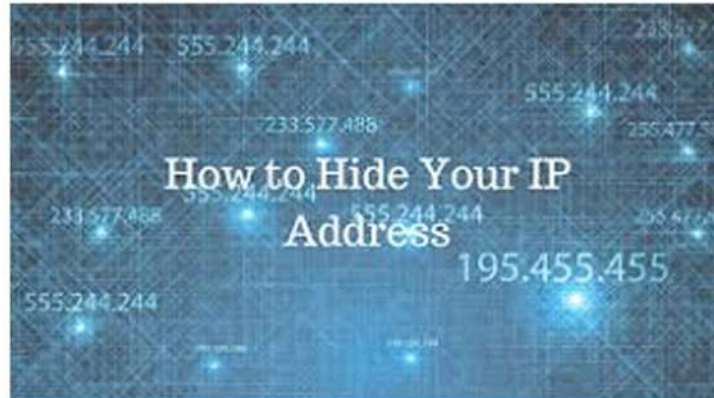
This personal gadget in a Five pen pc shortly called as P-ISM (“Pen-style Personal Networking Gadget Package”), is nothing but the new discovery, which is under developing stage by NEC Corporation. P-ISM is a gadget package including five functions: a CPU pen, communication pen with a cellular phone

function, virtual keyboard, a very small projector, and a camera. P-ISM’s are connected with one another through short-range wireless technology. The whole set is also connected to the Internet through the cellular phone function. This personal gadget in a minimalist pen style enables the ultimate ubiquitous computing. minimalist pen style enables the ultimate ubiquitous computing.



G.V.S.SOWMYA SREE
16761A1224

IP SPOOFING

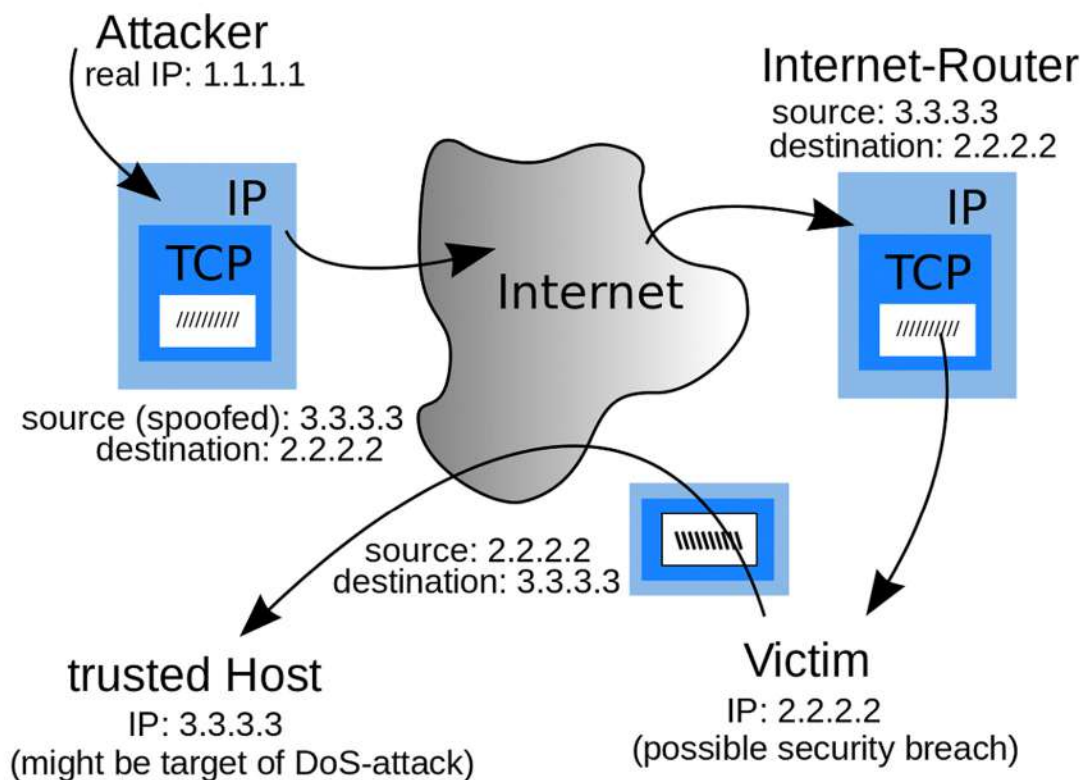


It is a technique used to gain unauthorized access to computers, whereby the intruder sends messages to a computer with an IP address indicating that the message is coming from a trusted host. To engage in IP spoofing, a hacker must first use a variety of techniques to find an IP address of a trusted host and then modify the packet headers so that it appears that the packets are coming from that host.

The basic protocol for sending data over the Internet network and many other computer networks is the Internet Protocol ("IP"). The header of each IP packet contains, among other things, the numerical source and destination address of the packet. The source address is normally the address that the packet was sent from. By forging the header so it contains a different address, an attacker can make it appear that the packet was sent by a different machine. The machine that receives spoofed packets will send response back to the forged source address, which means that this technique is mainly used when the attacker does not care about the response or the attacker has some way of guessing the response.

Criminals have long employed the tactic of masking their true identity, from disguises to aliases to caller-id blocking. It should come as no surprise then, that criminals who conduct their nefarious activities on networks and computers should employ such techniques.

IP spoofing is one of the most common forms of on-line camouflage. In IP spoofing, an attacker gains unauthorized access to a computer or a network by making it appear that a malicious message has come from a trusted machine by spoofing the IP address of that machine.



D.Monica
16761A1215

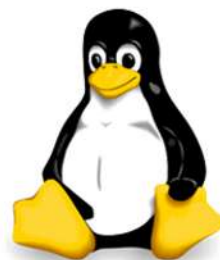
5-PEN PC TECHNOLOGY



An operating system (OS) is the software component of a computer system that is responsible for the management and coordination of activities and the sharing of the resources of the computer. The OS acts as a host for application programs that are run on the machine. As a host, one of the purposes of an OS is to handle the details of

This relieves application programs from having to manage these details and makes it easier to write applications. Almost all computers use an OS of some type.

OSs offer a number of services to application programs and users. Applications access these services through application programming interfaces (APIs) or system calls. By using these interfaces, the application can request a service from the OS, pass parameters, and receive the results of the operation. Users may also interact with the OS by typing commands or using a graphical user interface (GUI).



P. Roopi Sriram
16761A1245

3-D PASSWORD



Therefore, we present our idea, the 3D passwords which are more customizable and very interesting way of authentication. Now the passwords are based on the fact of Human memory. Generally simple passwords are set so as to quickly recall them. The human memory, in our scheme has to undergo the facts of Recognition, Recalling, Biometrics or Token based authentication. Once implemented and you log in to a secure site, the 3D password GUI opens up. This is an additional textual password which the user can simply put. Once he goes through the first authentication, a 3D virtual room will open on the screen.

In our case, let's say a virtual garage. The 3D password is a multi-factor authentication scheme. The 3D password presents a 3D virtual environment containing various virtual objects. The user navigates through this environment and interacts with the objects. The 3D password is simply the combination and the sequence of user interactions that occur in the 3D virtual environment.

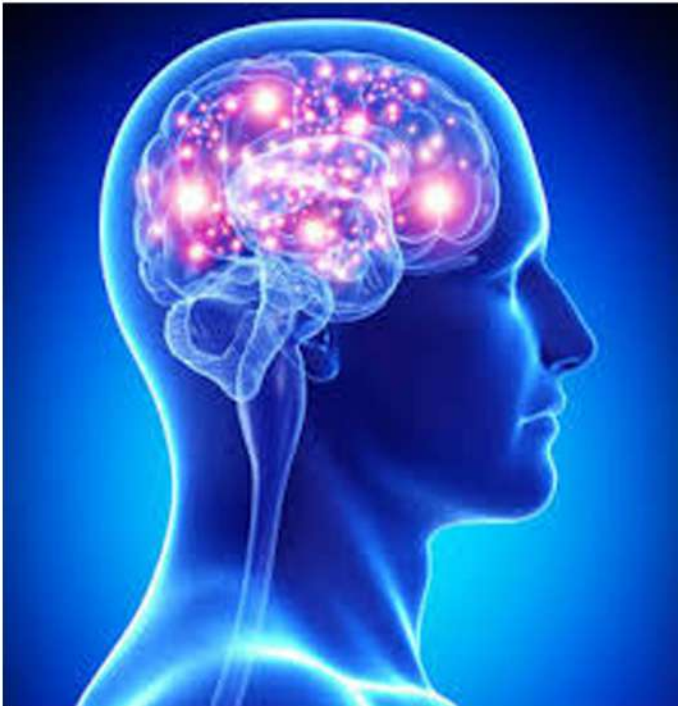
The 3D password can combine recognition, recall, token, and biometrics based systems into one authentication scheme. This can be done by designing a 3D virtual environment that contains objects that request information to be recalled, information to be recognized, tokens to be presented, and biometric data to be verified.

Virtual objects can be any object that we encounter in real life. Any obvious actions and interactions toward the real life objects can be done in the virtual 3D environment toward the virtual objects. Moreover, any user input (such as speaking in a specific location) in the virtual 3D environment can be considered as a part of the 3D password.



I. Bhavishya
16761A1226

BLUE BRAIN



“Blue brain” is the name of the world’s first a virtual brain. That means a machine can function as human brain. With the advancement in technology, human, the ultimate source of information and discovery should also be preserved. In other words, human does not live for thousands of years but the information in his mind could be saved and used for a several thousands of years. The main aim is to upload human brain into machine. So that man can think take decision without any effort. After the death of the body, the virtual brain will act as the man. So, even after the death of a person we will not lose knowledge, intelligence, personalities, feelings and memories of that a man that can be used for the development of the human society. Virtual brain is an artificial brain, which does not actually the natural brain, but can act as the brain

. It can think like brain, take decisions based on the past experience, and response as the natural brain can. It is possible by using a super computer, with a huge amount of storage capacity, processing power and an interface between the human brain and this artificial one. Through this interface the data stored in the natural brain can be up loaded into the computer. So the brain and the knowledge, intelligence of anyone can be kept and used for ever, even after the death of the person. .So, even after the death of a person we will not loose the knowledge, intelligence, personalities, feelings and memories of that man that can be used for the development of the human society.



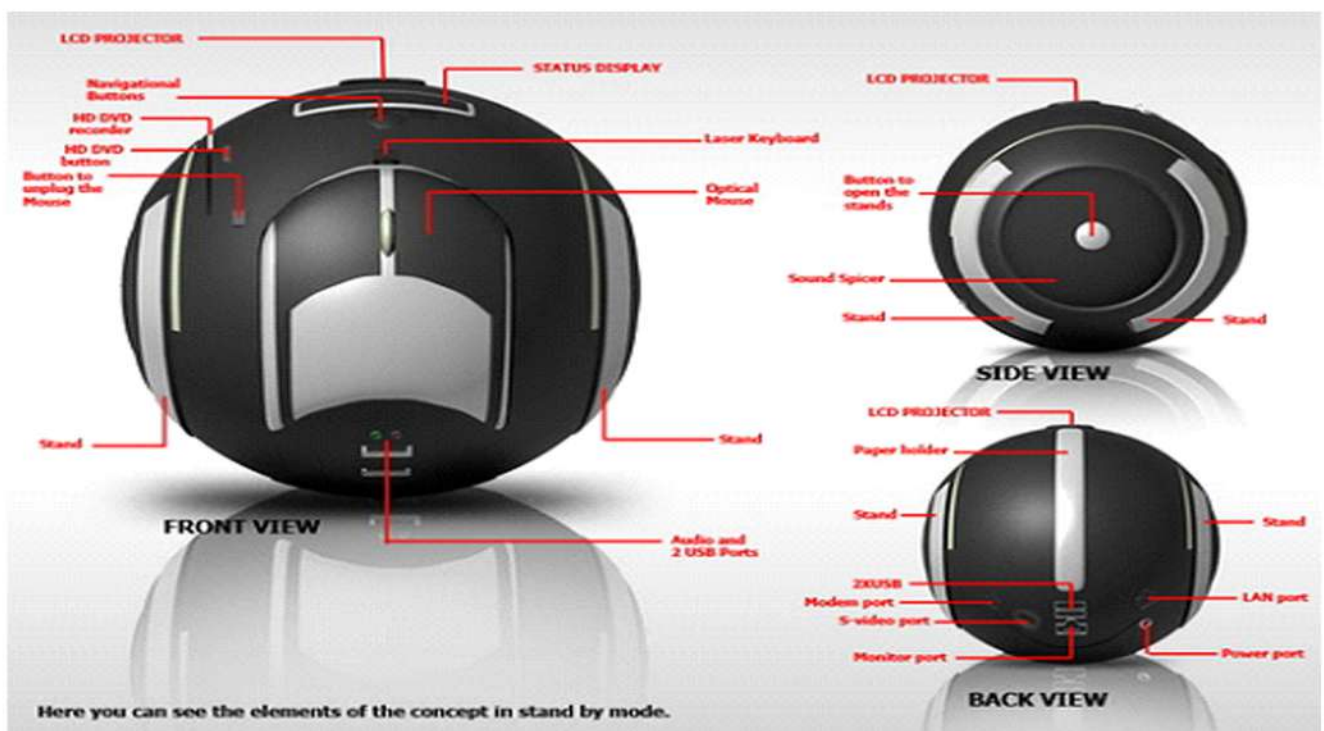
Ch.Venkata Pavithra
16761A1212

E-BALL TECHNOLOGY



The E-Ball concept PC is a sphere shaped computer which is the smallest design among all the laptops and desktops. Soon E-BALL based computer will be the new pc to be used in the near future. E-Ball is one of the ingenious emerging technologies designed by **Apostol Tnokovski**.

This sphere shaped PC is predominantly grounded on the laser rays technique and dwells all the necessary and vital features which a normal computer possesses. E-Ball is designed to be placed on two stands, opens by simultaneously pressing and holding the two buttons located on each side. After opening the stand and turning ON the PC, pressing the detaching mouse button will allow you to detach the optical mouse from the PC body.



This concept features a laser keyboard that can be activated by pressing the particular button. E-ball is very small, it is having 6 inch diameter sphere. It is having 120x120mm motherboard. It has the features such as it contains wireless optical mouse and laser keyboard and LCD projector. It has around 350-600GB of Hard Disk Drive. It contains 5GB RAM. It has two 50W speakers. It has LAN and WLAN card and a Web cam. The software interface of E-Ball concept pc is highly stylized with icons that can be remembered easily that support all type of windows operating system. E-Ball concept pc work very easy while you are making video presentations, listening music watching large screen movies, and chatting on the net.



I.V.SRAVANI
16761A1225

PILL CAMERA



Technology is like an expanding universe. As there is a great progress in manufacturing products, humans are still thinking more complex about innovative ideas. With our present technology we manufacture products by casting, milling, grinding, chipping and integrated fabrication. With these technologies we have made more things at a lower cost and greater precision than ever before. In the manufacture of these products we have been arranging atoms in great thundering statistical herds. All manufactured products are made from atoms. The next step in manufacturing technology is to manufacture products at molecular level. The technology used to achieve manufacturing at molecular level is “**NANOTECHNOLOGY**”. Nanotechnology is the creation of useful materials, devices and system through manipulation of such miniscule matter (nanometre). Nanotechnology deals with objects measured in Nanometers.

All manufactured products are made from atoms and properties of those products depend on how those atoms are arranged in great thundering statistical herds. If we rearrange atoms in dirt, water and air we get grass. The next step in manufacturing technology is to manufacture products at molecular level.



The technology used to achieve manufacturing at molecular level is Nanotechnology. And pill camera is one of its example which takes pictures of our intestine and transmits the same to the receiver of the Computer for analysis of our digestive system.

This process can help in tracking anykind of disease related to digestive system. Also some drawbacks of PILL CAMERA are mentioned and how these drawbacks can be overcome using Grain sized motor and bi-directional wireless telemetry capsule. The pill camera is a new diagnostic tool that permits a direct visual examination of the small intestine. It is that area of the body which is not previously accessible using upper endoscopy or colonoscopy. The pill is known as M2A capsule endoscopy.



G.NAGA SAI PRADEEP
16761A1223

Departments Events

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PLACEMENTS DETAILS

S.No	H.T No	Name of the Student	Selected Company
1	14761A1254	SRISUDHA CHALLA	INFOSYS
2	14761A1216	GANJI. TANUJA	
3	14761A1259	VUDUTHA. LAKSHMI TEJASWI HARI PRIYA	
4	14761A1254	SRISUDHA CHALLA	ZENQ
5	14761A1214	GADE. SAILAJA	COGNIZANT TECHNOLOGIES
6	14761A1205	BALUSU. SIVA NAGA	RAJU WIPRO TECHNOLOGIES
7	14761A1214	GADE. SAILAJA	VEE TECHNOLOGIES
8	14761A1216	GANJI. TANUJA	ALLSEC TECHNOLOGIES
9	14761A1255	VANKADARU. LOKESH MANIKANTA KUMAR	
10	14761A1202	ALMAAS NAZNEEN	
11	14761A1260	VUTUKURU. AMULYA	
12	14761A1216	GANJI. TANUJA	CMS IT SERVICES
13	14761A1246	PATURI. HARITHA	
14	14761A1238	MURARI. DEEPIKA	
15	14761A1243	PADAM. PRIYANKA	
16	14761A1210	CHERUKUMALLI. DURGA SRAVANI	
17	14761A1224	GADIRAJU. JOJI VARMA	
18	14761A1235	MIRIYALA. NAGA VENKATA SAI TEJASWINI	
19	14761A1232	KOPPAKA. SRI LEKHA	
20	14761A1235	MIRIYALA. NAGA VENKATA SAI TEJASWINI	
21	14761A1255	VANKADARU. LOKESH MANIKANTA KUMAR	MIRACLE SOFTWARE
22	14761A1246	PATURI. HARITHA	
23	14761A1242	NERELLA. BALA NAGA SAI RAJANI BHAVANI	
24	14761A1260	VUTUKURU. AMULYA	
25	14761A1214	GADE. SAILAJA	
26	14761A1213	DOKUPARTHI. ANUSHA	SNOVASYS
27	14761A1260	VUTUKURU. AMULYA	
28	14761A1243	PADAM. PRIYANKA	
29	14761A1226	KALLAM. SRI HARSHA VARDHAN REDDY	JUST DIAL
30	14761A1205	BALUSU. SIVA NAGA RAJU	
31	14761A1202	ALMAAS NAZNEEN	SUTHERLAND GLOBAL SERVICES
32	14761A1205	BALUSU. SIVA NAGA RAJU	EFLAIR WEBTECH PVT LTD
33	14761A1226	KALLAM. SRI HARSHA VARDHAN REDDY	
34	14761A1213	DOKUPARTHI. ANUSHA	

Internship

Company Name	Company Sector	Branch	No of Students
C2N IT Services Pvt. Ltd,	Private	Hyderabad	6
BSNL, Vijayawada	Public	Vijayawada	4
Sell global	Private	Hyderabad	5
Azure Skynet Solutions Pvt. Ltd, Hyderabad	Private	Hyderabad	6
SuBrains, Vijayawada	Private	Vijayawada	6
Transkwik, Vizag	Private	Visakhapatnam	4
VISION GROUPS, Hyderabad	Private	Hyderabad	5
Nipuna Technologies	Private	Guntur	1
Kveninar Software Solutions	Private	Vijayawada	4
Cyber Software	Private	Hyderabad	4
Rapido	Private	Bangalore	1
Peers Technologies	Private	Hyderabad	1
GCS	Private	Mangalagiri	1
DV Tech	Private	Guntur	1
Point Cross	Private	Bangalore	1
All Bright Technologies	Private	Vijayawada	1
Webtek Labs	Private	Hyderabad	1
Arete IT Services	Private	Vijayawada	1
Unisoft Technologies	Private	Vijayawada	1
IIIT Hyderabad	Public	Hyderabad	1
Unisoft Technologies	Private	Vijayawada	3

Fundamentals of MS-Office

Event Name: "A Two day workshop on “Fundamentals of MS-Office”

Type of Event: Workshop

Dates: 24-11-2017 & 25-11-2017



Event banner



Principal addressing the gathering



Supporting staff hands-on session



Certificate distribution by honourable principal



Press Report

Resource Persons:
Mr.G.Nageswara Rao
Mr.T.Suresh
Mr.N.Srinivasa Rao
Mr.Sk.Johny Basha

MACHINE LEARNING & SOFT COMPUTING

Event Type : FACULTY DEVELOPMENT PROGRAM

Date / Duration : 22-01-2018 to 28-01-2018



Resource Person : Dr.R.Bala Venkata Subramanyam – NIT WARANGAL

Dr. Rama Murthy Garimella – IIIT HYDERABAD

Dr. Nagesh B. Sristy – IDRBT HYDERABAD

Dr .C. Chandra Sekhar - IIT MADRAS

Dr. R.Chandrasekharam – Rtd Prof REC WARANGAL

PYTHON CERTIFICATION PROGRAMME



BIGDATA CERTIFICATION PROGRAMME

Event Type : Certification Programme

Date / Duration : 30th Jan 2018 to 01st Feb 2018, Three Day

Resource Person : Mr.Shashank, ELAN & Nvision

Name of Coordinator : Mrs.K.Lavanya, Mrs. K.Anupriya



WEB TRENDS

Event Type : Workshop

Date / Duration : 13th December 2017

Resource Person : Mr. D. Sai Satish CEO Indian Servers

Name of Coordinator : Dr.S.Naganjaneyulu



Information & Cyber Security

Event Type : Awareness program

Date / Duration : 06-01-2018

Resource Person : Mr.I.L.Narasimha Rao,Project Manager,C-DAC, Hyd.

Name of Coordinator : Mrs.K.Lavanya / Mr. Sambasivarao chindam



Inviting the guest on to the stage



Lightening the Lamp



Dean of Acdemics Dr.R.Chandrasekharam speech



Principal Dr.K.Apparao Addressing the students



Dr.D.Nagaraju,Head of the department giving introduction about the CDAC & Program



Mr.I.L.Narasimha Rao, Project Manager, C-DAC, Hyderabad giving lecture



Students



*Guest of Honour with memento and followed
by Vote of Thanks*

ENHANCING PROBLEM SOLVING SKILLS

Event Type : Guest Lecture

Date / Duration : 17-March-2018 / 1 day

Resource Person : Dr. M. Babu Reddy HOD, Dept. of Computer Science Krishna University, Machilipatnam, Andhra Pradesh

Name of Coordinator : Dr.S.Naganjaneyulu, Professor, Dept of IT



International Conference





FUTURE TECHNOLOGIES

'Focus on emerging technologies'

W RAJLAKSHMI SRINIVAS
Lakshmi Reddy College of Engineering (LBRCE), located at Mysore in Kodagu district, organised a two-day international conference on 'Computational Intelligence and Data Engineering in the Institute campus.'

JNTU-Kakinada Vice-Chancellor V.S.S. Kumar along with LBRCE founder and chairman Lakshmi Prasad Reddy inaugurated the event.

Addressing the students, Prof. Kumar advised the participants to focus on emerging areas such as cloud computing, big data and artificial intelligence which helps to gain expertise in future technologies.

More than 200 delegates from India and other countries, including Institute president G. Venkatesh Reddy, principal K. Appa Rao, Prof. Venk Govindaraj of Buffalo State University, US; Prof. Agostino Corici, Car Piacenza University, Venice, Italy; Prof. Stephen Marshall from Massey University, New Zealand, and Prof. Nabendu Chaki, Faculty of Computer Science, University of Calicut, attended.

Meets on modern trends in pure mathematics
Department of Mathematics of Andhra Loyola College (ALC), Visakhapatna, organised a national conference on 'Modern Trends in Pure Mathematics', at the college seminar hall.

Sector Faculty of Department of Mathematics, M. Krishnaiah said the two-day meet provides insights to improve analytical skills and reasoning, logical thinking and innovative thinking. Special Commissioner of Collegiate Education, G.S. Purush Das, Prof. M.A.S. Venkatesh, Department of Mathematics, J.N.T. University, Hyderabad, PV. Sundararam of CR Rao Advanced Institute, Hyderabad participated.

TCS accreditation head visits RRC
Tata Consultancy Services (TCS) accreditation head A.K. Pattabhiraman participated in an interactive session organised under industry-institute relationship programme at Rajawade College of Engineering (RCE), at Khairi in West Godavari district.

Responding to the queries posed by students on instability in IT sector, Mr. Pattabhiraman asked the students to develop problem solving skills and be a continuous learner to excel. Despite the turbulent scenario, IT industry is bound to grow and is looking for fresh recruitments, he said.

Later, he interacted with the faculty. RRC Chairman Galla Ramachandra Rao, secretary and corresponding K. Venugopal, principal D. Sanjay, vice-principal S. Jagat Mohan Rao and heads of various departments took part in the programme.

ALUMNI





Achievements



V. Renuka Reddy secured Second place in 100mts at JNTU Kakinada, 2017



V. Renuka Reddy secured second place in Relay in 5th JNTUK INTER COLLEGIATE ATHLETIC CHAMPIONSHIP.



V. Renuka Reddy selected for ALL INDIA inter college competitions.





**TECHNOLOGY IS USED
EVERY DAY
IN EVERY FIELD
IN EVERYTHING WE DO!**



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
(AUTONOMOUS)

Accredited by NAAC with 'A' Grade, ISO 9001:2015 Certified Institution

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India