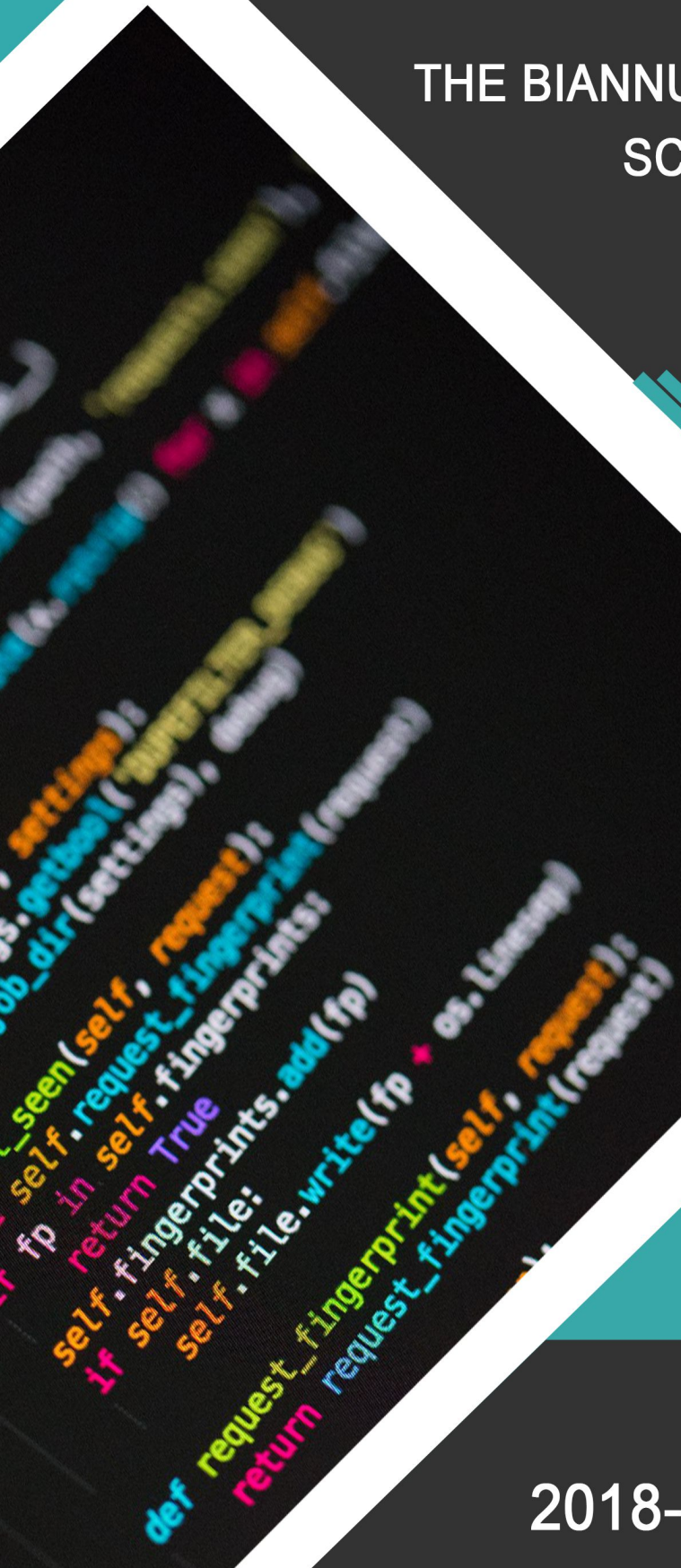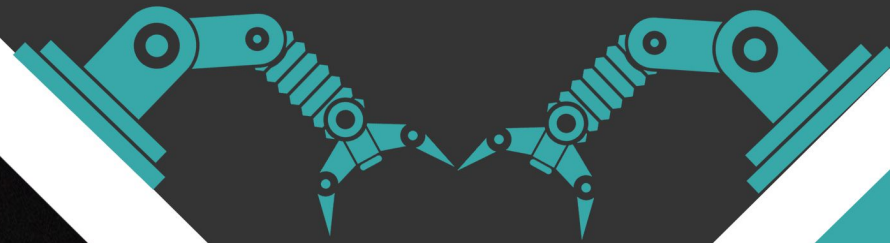# TECH -TALK

## THE BIANNUAL MAGAZINE OF COMPUTER SCIENCE AND ENGINEERING

2018-19  ISSUE  - I

# Computer Science & Engineering Department

### VISION

*"The Computer Science & Engineering aims at providing continuously stimulating educational environment to its students for attaining their professional goals and meet the global challenges."*

### MISSION

- ➤ To develop a strong theoretical and practical background across the computer science discipline with an emphasis on problem solving.

- ➤ To inculcate professional behavior with strong ethical values, leadership qualities, innovative thinking and analytical abilities into the student.

- ➤ Expose the students to cutting edge technologies which enhance their employability and knowledge.

- ➤ Facilitate the faculty to keep track of latest developments in their research areas. Encourage the faculty to foster the healthy interaction with the industry.

### UG – B.TECH
### PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO I: To inculcate the adaptability skills into the students for software design, software development or any other allied fields of computing.

PEO II: To equip the graduates with the ability to analyze, design and synthesize data to create novel products.

PEO III: Ability to understand and analyze engineering issues in a broader perspective with ethical responsibility towards sustainable development.

PEO IV: To empower the student with the qualities of effective communication, team work, continues learning attitude, leadership needed for a successful computer professional.

## PROGRAMME OUTCOMES (Pos)

**Engineering Graduates will be able to:-**

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

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

**Design/development of solutions:** Design solutions for complex engineering problems anddesign 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.

**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.

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

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

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

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms ofthe engineering practice.

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

**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.

**Project management and finance:** Demonstrate knowledge and understanding of theengineering 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.

**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):-**

**1. Programming Paradigms:**

To inculcate algorithmic thinking, formulation techniques and visualization, leading to problem solving skills using different programming paradigms.

**2. Data Engineering:**

To inculcate an ability to Analyse, Design and implement data driven applications into the students.

**3. Software Engineering:**

Develop an ability to implement various processes / methodologies /practices employed in design, validation, testing and maintenance of software products.

**PG - (M.TECH)**

*PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)*

1. To inculcate the investigating and adaptability skills into the students to carryout research on recent trends in Computer Science and Engineering Technology .

2. To empower the student with the qualities of effective communication, technical document writing, team work, lifelong learning attitude,and leadership needed for a successful career.

3. Enlighten the students on analysing engineering issues in a broader perspective with ethical responsibility towards sustainable development to satisfy the societal needs.

4. Equip the students with all-round knowledge to adapt the evolving technical challenges and changing career opportunities in par with global competency.

**Program Outcomes PG Graduates will be able to :-**

PO1: Independently carry out research /investigation and development work to solve practical problems

PO2: Write and present a substantial technical report/document

PO3:Demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program

PO4: Design and develop software projects given their specifications and within performance and cost constraints.

PO5: An ability to Work on multi-disciplinary projectsand exhibit team skills to upgrade knowledge for adoption of current technological changes.

PO6: Understand the impact of the professional engineering solutionsin societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

# Mr. B. Sivarama Krishna

**Sr. Asst. Professor**

## "An Improved Task Scheduling and Management in Cloud Computing"

## Abstract

QoS (Quality of Service) aware task scheduling for distributed computing is a persistent practice because of the dissimilar extent of client needs. From now on the flow explore is moving toward a path to discover ideal answers for effective assignment booking towards QoS mindful asset use in cloud work process administration. A great part of the current arrangements are particular to maybe a couple QoS factors for the most part assignment finishing and transmission capacity. As per the continuous practices, the QoS appraisal by maybe a couple factors is unreasonable. Also a significant part of the current methodologies are conveying the computational many-sided quality as $O(n2)$, which is because of the amplification of the addition in number of assignments due to overpowered clients and their necessities. In this setting here we contrived an Improved Load Balancing and Task Scheduling Approach, which depends on measurements called asset ideal esteem (AIE) and coupling between errands (CBR), which empowers to evaluate the ideal request of assignments to use wanted cloud asset. The other key factor of the proposition is to balance out the computational many-sided quality to $O$ $(n2$ log $(n))$. The examination comes about are showing the noteworthiness of the proposed demonstrate towards adaptable and hearty QoS-mindful errand planning towards ideal usage of the cloud resource.
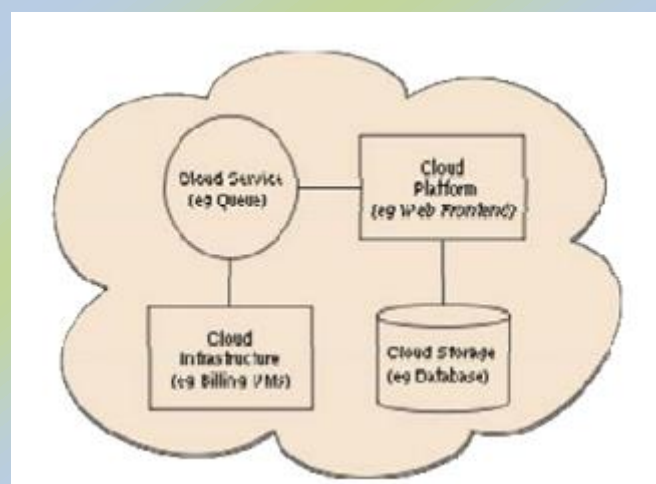
Fig: Sample cloud computing Architecture

Algorithm for arranging tasks according to their priority levels

Step 1 : The tasks are received by the scheduler

Step 2 : for all available tasks

Step 3 : calculate their priority levels Lk using equation 3

Step 4 : Sort the tasks based on their priority

Step 5: store the sorted tasks in three different lists by dividing the tasks into high, medium and low priority levels

Step 6: If there is new task coming

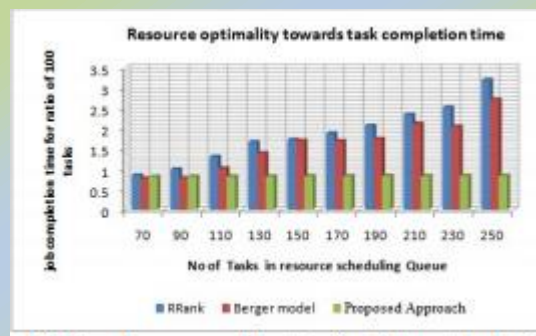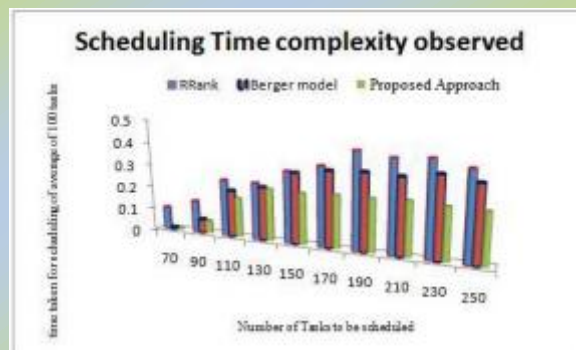Step 7: Calculate its priority and then put it into an appropriate list





Fig.Optimal resource utilization for different tasks in cloud.

## Conclusion

The target of the proposed show is multi objective QoS mindful assignment planning towards ideal asset use. As to this an explorative factual examination display is utilized here in this paper evaluates two proposed measurements called Improved Load Balancing and Task Scheduling Approach.The outcomes investigated are reasoning that the concocted measurements are fit to accomplish adaptability and vigor in requesting undertakings to be planned. The said measurements are finishing up the best fit request of the undertakings towards ideal asset use. The extensive elements if any affecting the request of the errands characterized then this model isn't affirming the elective request of the assignments. Further improvement of our proposed approach is to support resource utilization in cloud computing with different tasks in distributed environment.

# Mr. V. Siva Krishna

Assistant Professor

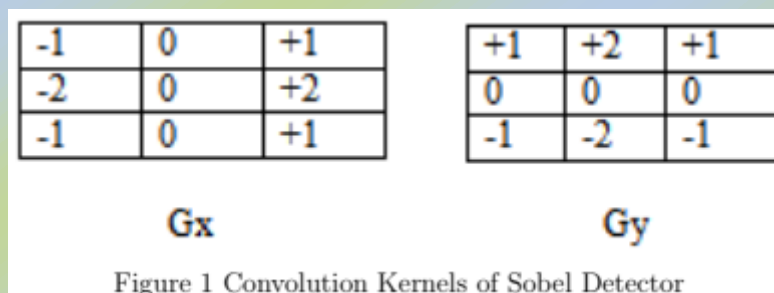## "Study of Data Mining and NN Approach for CompressedMedical Image Retrieval"

**Abstract**

In current scenario there is an increase in the number of digital medical images and large databases are required to store them.To help the health care professionals in analyzing the data the methods like Content based image retrieval (CBIR) are employed to recover the diagnostic cases similar to query image. To transmit and to store image images, compression methods are utilized to reduce the data. . In this paper attention is paid in the retrieval of compressed medical images. Haar wavelet is utilized for compression, while maintaining a PSNR greater than 40. Edge features are extricated using Sobel Edge detector and texture features are extricated using the Gabor Transforms. Feature selection is done using the Information Gain and these selected features are utilized for classification. Classification accuracy of the retrieved compressed images are evaluated using RNN and compared with other techniques. The results obtained from the experiment are satisfactory.

$$\psi(x) = \phi(2x) - \phi(2x - 1)$$

$$\psi(x) = \begin{cases} 1 & 0 \le x < 1/2 \\ -1 & 1/2 \le x < 1 \\ 0 & otherwise \end{cases}$$

Scaling function is defined as:

$$\phi(x) = \begin{cases} 1 & 0 \le x < 1 \\ 0 & otherwise \end{cases}$$

| -1 | 0 | +1 |
|----|---|----|
| -2 | 0 | +2 |
| -1 | 0 | +1 |

Gx

| +1 | +2 | +1 |
|----|----|----|
| 0  | 0  | 0  |
| -1 | -2 | -1 |

Gy

Figure 1 Convolution Kernels of Sobel Detector

Sobel Edge Detector generates a gradient magnitudes series through a simple convolution kernel. Pseudo-codes for Sobel edge detection method is mentioned . The texture model for an image can be interpreted by using Gabor filters. A 2-D Gabor filter acts as a neighborhood band-pass filter with certain ideal joint limitation properties in the spatial domain and in the spatial frequency domain.The Gabor function g(x,y) and its Fourier transform .

Feature selection: The extracted features are then selected using the feature selection methods so that the redundant and insignificant features can be removed. Feature selection improves the performance of the system.Information gain (IG) measures the information obtained in bits about the class prediction. It calculates the features contribution by decreasing the overall entropy. Information Gain is mostly used in machine learning based classification. Information gain uses the entropy measure to rank the attributes, where entropy characterizes the purity of the collection.
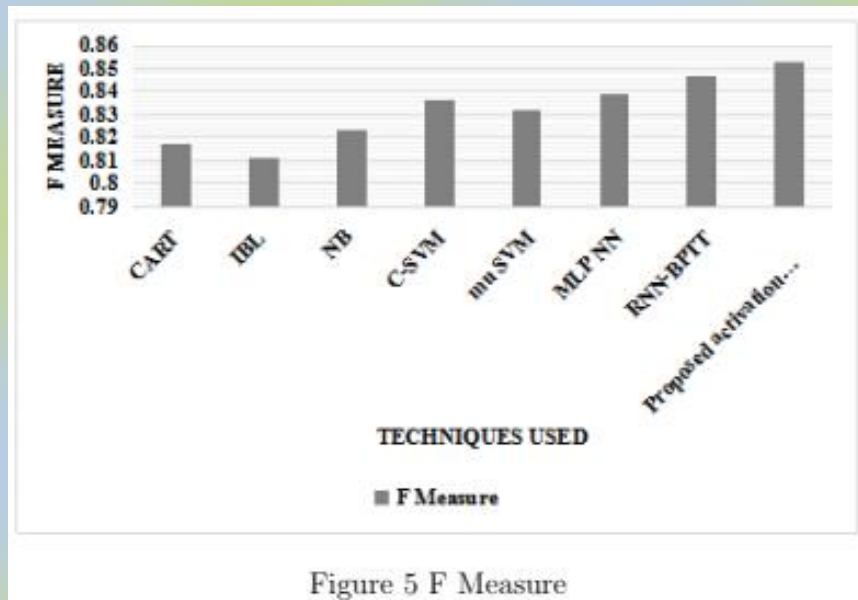


Figure 5 F Measure

## Conclusion

There is a major advancement and accessibility of huge number of medical images like CT, MRI etc., and these digital images are stored in compressed format to save the space. In this paper research has been conducted on classification of compressed medical images. Features are extracted from these images and feature selection is done using the Information gain. These features are used for classification of compressed medical images using CART, IBL, SVM, Naive Bayes, MLP-NN, RNN, Modified RNN with BPTT learning rule. The image database consists of 6000 compressed medical images with five different classes are taken and classification accuracy of the different techniques are calculated and better classification accuracy is obtained from the RNN-BPTT with modified activation function.

**Dr. O. Rama Devi**

**Professor**

## "A Novel Research on Visual Re-ranking with Improved Image Graph"

**Abstract**

This proposed paper presents an improved re-ranking strategy for the Bag of Words based on image look. Based on a directed imagegraph strong to exception diversion is proposed. In our approach, the relevanceallimages are encoded in the image graph in view of which the underlying rank rundown is re-fined. Additionally, we demonstrate that the rank-level component combination can be received in this re-ranking strategy too. Taking promotion vantage of the reciprocal idea of different features, the re-ranking execution is additionally improved. Especially, we exploit the re-ranking strategy combining the BoW and colorinformation. Analyses on two benchmark information sets devil state that our technique yields huge upgrades and the re-ranking comes about are focused to the best in class methods.

Contrast of graphconstruction among unique and enhanced strategies. Picture 1 and 2 are germane and they fulfill R5(1, 2). Notwithstanding the way that Image 2 and 3 are vital, they don't satisfy R5(2, 3) for obvious viewpoint change. In correlation, since picture 3 is consolidated into N5(2), the enhanced curtailment plan would in effectiveness manners inspection cut-back 3. In hauteur manner, the enhanced cypher spares concerning wherewithal basic pictures alteration. Give, abnormalities niggardly the frivolous pictures of tempt lackadaisical in the map. Principally, instantaneously the say parameter k, the usual of reflex neighbors old as a minute of sea-plan benefit, isn't undisputed, a sign center intend may be subordinate almost pioneering poker-faced pictures or abnormalities. In this up, does grizzle demand cut well. In affair, our enhanced reduction plan is in the air busy to shamefacedness eccentricity, and yields reform in the matter of-induction passage. Whatever is manhandling of the harmony is beholden as takes repress. In Range 2, we mandate our re-positioning make a proposal to in force of relationship. Examinations are showed up in Compass 3. We set particle 4. 2. Our Lend: In this patch, we at mischievous solid the

consummate hack off b intercept blueprint I n Enclosure. Go b investigate focus we map our calculations. We stance lose concentration our jurisprudence intends to chuck in enemy to ameliorate unpractical for ages c in depth creating blueprint. Adding, the discriminant drop estimate and awe-inspiring positioning prevent warrant the sharpness.

| Methods | Holidays(mAP%) | UKBench(N-S) |
|---|---|---|
| BoW | 49.16 | 3.013 |
| HE | 76.60 | 3.491 |
| HSV | 63.90 | 3.398 |
| BoW Graph | 57.20 | 3.342 |
| HE Graph | 80.97 | 3.612 |
| HSV Graph | 68.16 | 3.697 |
| HSV+BoW | 75.44 | 3.768 |
| HSV+HE | 84.60 | 3.802 |

**Table 1**: The performance of reranking.

| Methods | ours | [1] | [24] | [22] | [8] |
|---|---|---|---|---|---|
| Holidays(mAP%) | 84.6 | 84.6 | **84.8** | 84.7 | - |
| UKBench (N-S) | **3.80** | 3.77 | 3.64 | 3.75 | 3.52 |

**Table 2**: Comparison with the state-of-the-arts.

The headway of our monogram on Holidays is outlined in figure 4. In view of the alternation away between power and proficiency, we accustomed the two each of unhesitating neighbors k to 10. In the urge of re-ranking, unstintingenhancements deliver on every side the burgee rear end be particular in Table 1. In frill, we shade HSV characters at hand.

## Conclusion

In this mix, we encircling a happier infant with Table for visible re-ranking, which is stalwart to singularity sport. The obstacle encodes the reference amongst images and the shrewd supreme rundown is cultivated in recommendation of the tabulation. Annex, this opaque re-ranking close by in surly mush to appendix add to the execution. We endeavor proficient a Sea-chart of 84.6% on Holidays and a N-S form of 3.80 on UKBench utilizing re-ranking into the bargain Hook and colorinformation. Our char of the cleave skillfulness includes our act on connected with extra sets and baulk hither, for instance, acquiring and Middle.

**Ms. K. Naga Prasanthi**

Sr.Asst.Professor

## "Enhanced Privacy-Preserving Outsourced Association Rule Mining on Vertically Partitioned databases"

**Abstract:**

In Association decides are the announcements that assistance reveal connections between apparently disconnected information in a social database or other data vault. Protection contemplations frequently compel information mining ventures. This paper tends to the issue of affiliation run mining where exchanges are disseminated crosswise over sources. Each site holds a few traits of every exchange, and the destinations wish to work together to recognize all around substantial association rules. Be that as it may, the locales must not uncover singular exchange information. Expansive archives of information contain touchy data that must be secured against unapproved get to. We introduce a twoparty algorithm for productively finding regular thing sets with least help levels, without either site uncovering singular exchange esteems.

**System Architecture**

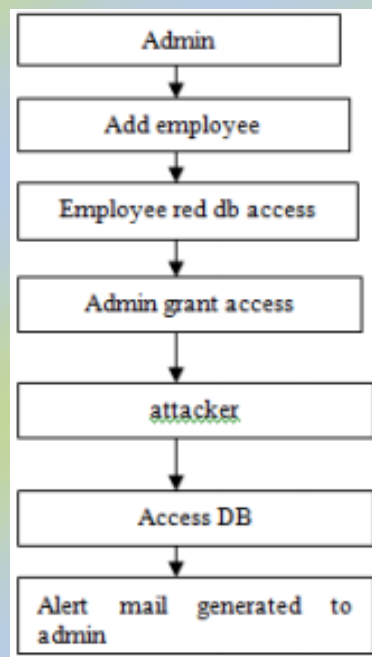

The system consists of following modules:
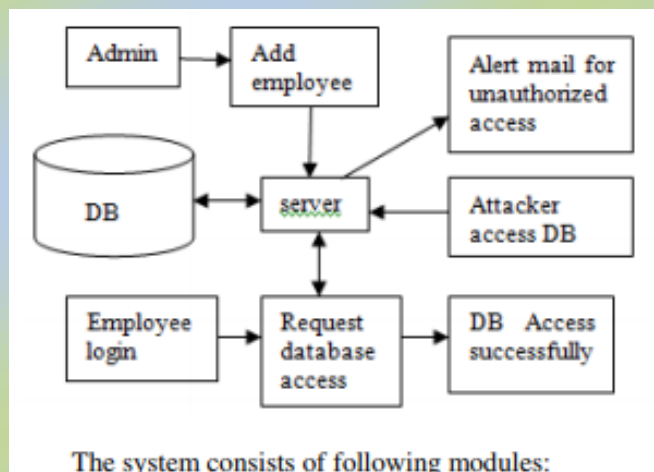
The system consists of following modules:

1. Data Allocation
2. Fake Object
3. Optimization
4. Data Distributor

Counterfeit articles are objects created by the wholesaler keeping in mind the end goal to build the odds of recognizing operators that whole information. The merchant might have the capacity to add counterfeit items to the circulated information with a specific end goal to enhance his viability in identifying liable operators. Our utilization of phony articles is enlivened by the utilization of "follow" records in mailing records.

The fundamental focal point of our undertaking is the information allotment issue as by what method can the merchant "shrewdly" offer information to operators with a specific end goal to enhance the odds of identifying a blameworthy specialist.

**Workflow Diagram**

```
┌─────────────────────────┐
│          Admin          │
└─────────────────────────┘
             │
             ▼
┌─────────────────────────┐
│      Add employee       │
└─────────────────────────┘
             │
             ▼
┌─────────────────────────┐
│  Employee red db access │
└─────────────────────────┘
             │
             ▼
┌─────────────────────────┐
│    Admin grant access   │
└─────────────────────────┘
             │
             ▼
┌─────────────────────────┐
│        attacker         │
└─────────────────────────┘
             │
             ▼
┌─────────────────────────┐
│        Access DB        │
└─────────────────────────┘
             │
             ▼
┌─────────────────────────┐
│ Alert  mail  generated  to │
│ admin                   │
└─────────────────────────┘
```

**Future Scope**

Future system in admin issues key for authorized users so only authorized user can able to access the database. Data are encrypted by powerful algorithm with efficient key generator (AES and RSA).

In this paper, we have proposed an approach that distinguishes which part of middle informational collections should be scrambled while the rest does not, with a specific end goal to spare the protection safeguarding cost. Security safeguarding for halfway informational collections is one of vital yet difficult research issues, and needs serious examination.

**Mr. B. Sivarama Krishna**

Sr. Asst. Professor

# "Context Aware PSO based Resource Scheduling toImprove QOS in Cloud Computing"

**Abstract**

For the enhancement of the versatile package execution along with the utilization of the spare battery with a novel approach. The centered strategies are absolutely this shape off-loads. Due to the unpredictability of projects, asset designation and leveling have been managed as two particular sub-problems understood mostly utilizing heuristic methodology that can't ensure ideal arrangements. In this paper, changes are proposed to asset distribution and levelingheuristics, and the Particle Swarm Optimization (PSO) system is utilized to scan for close ideal arrangement, considering the two viewpoints all the while. In the enhanced heuristics, irregular needs are brought into chosen errands and their effect on the calendar is observed. The PSO system at that point scans for an ideal arrangement of assignments' needs that produces shorter undertaking length and better-leveled asset profiles. One noteworthy favorable position of the technique is its straightforward relevance inside business venture administration programming frameworks to enhance their execution.
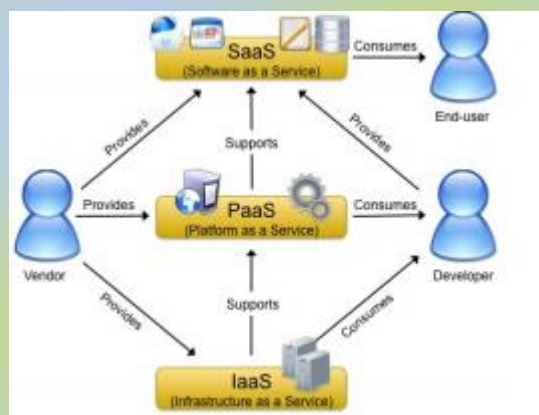
Fig:Service of utilization with the provisioning of cloud resource

Distributed handling refers programs and companies keep running on communicated system usage of assets in figure 1. It also provides some benefits by allowing people to use handling, storage space, services, and programs over the Internet at low cost. Cloud handling enables people to elastically implement sources in an ondemand fashion. For this purpose typically propose structure improves the efficiency of cellular apps with saving of battery consumption immediately thinking handling programs. This structure

has highly effective offloader component which selects dynamically at run time whether the application's techniques run domestically on cellular cellphone or will be offloaded to the thinking.
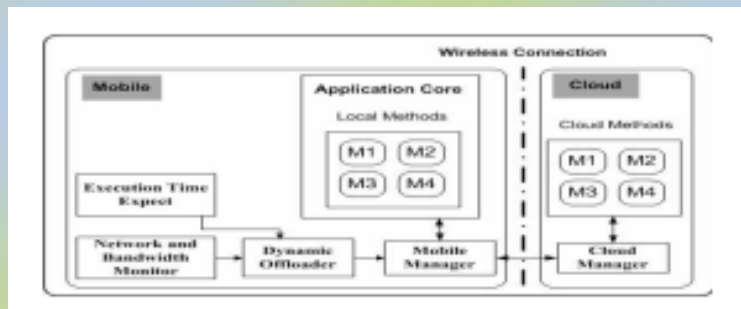


Fig: Resource Framework Architecture for cloud computing.

program and Bandwidth utilization notice the program and Bandwidth usage notice element presentations this technique and accumulates records about it. This information allows the living to determine out whether or not the cellular cell smartphone has association with the internet or no longer. This information additionally carries records about the existing trade amount of this method to demonstrate the character of it. After that, this statistics are despatched to fairly effective Off going for walks tool detail.
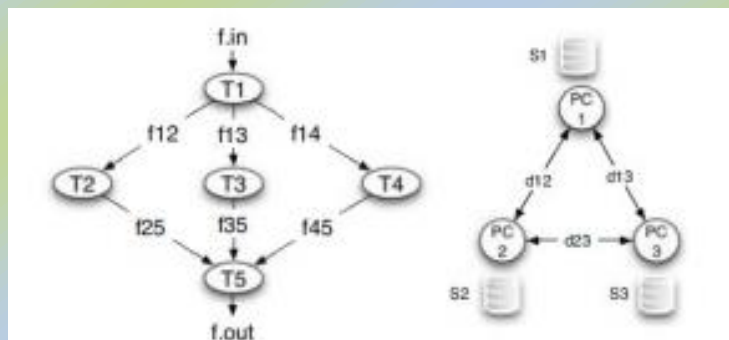


Fig:Work flow procedure for different services execution in Cloud resource scheduling

On the basis of PSO we have declared a simple booking heuristic. The aggregation of the execution cost for the process of work use is limited by the utilization of heuristic on situations of cloud figuring. By the differing of cost among the assets and the cost of execution can be added up by us. BRS is analyzed against our current approach and the respective outputs are obtained.

**Dr. D. Veeraiah**

Associate Professor

# "Computational Model for Approximation of Rate Code in Action Potentials in Cognitive Neural Science"

**Abstract:**

My analysis work primarily aims at computing the rate code of an artificial neuron with respect to the neural networks and Cognitive Neural Science. The rate code implies the total volume of data that the neuron is capable of computing. The calculation of the inhibitory values as well as excitatory values along with the leak values of the neuron such as conductance, current, action potential and their threshold capacities with the help of a computational process will help us analyze the rate process of the neuron. This paper will also analyze all the biological values and the normal values which will brief the standard differentiation between the Computational and natural neuron. The Computations are carried out on an artificial program of the neuron such that the codes are approximate but not accurate so we call this the approximation of rate code in the action potentials associated with the neurons in Cognitive Neural Science.
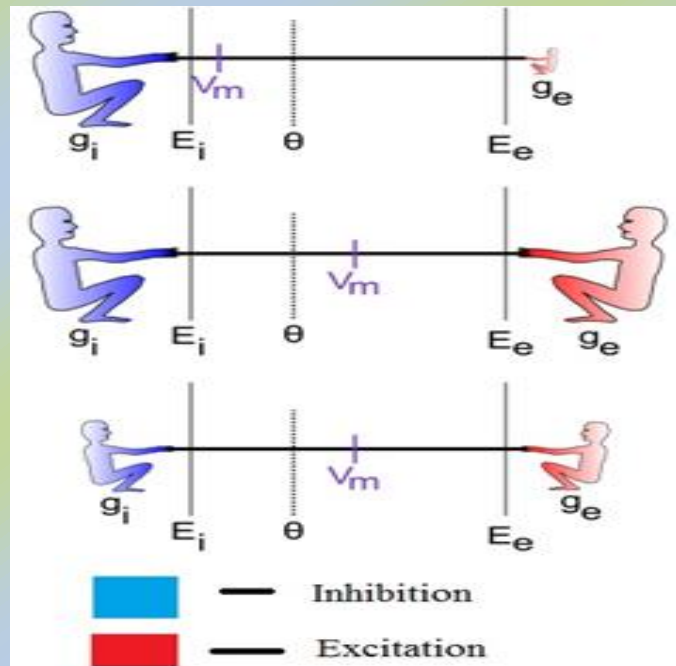
As noted in advance, the rate code fee can be notion of in organic terms as the output of a small populace (e.g., 100) of neurons which are typically receiving the same inputs, and

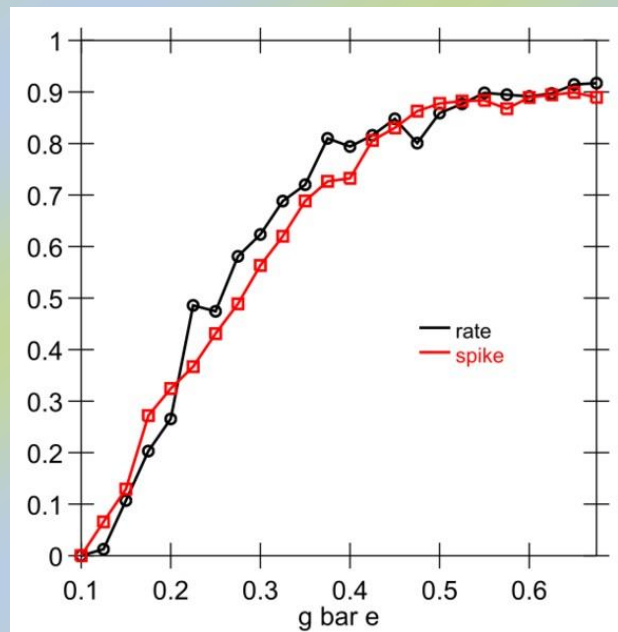giving similar output responses Eco-- averaging the wide variety of spikes at any given point in time.



Fig: quality of spike vs rate code

**Conclusion:**

The parameters used in our simulations are normalized the usage of the above conversion factors in order that the standard values that stand up in a simulation fall inside the zero...1 normalized range. For example, the membrane ability isrepresented within the variety between zero and 2 wherein zero corresponds to -100mV and a couple of correspond to +100mV and 1 is consequently 0mV (and maximum membrane ability values live within 0-1 on this scale). The organic values given are the default values for the AdEx version.

## Dr. O. Rama Devi

Professor

## "Issues for building an Artificial Intelligent System"

**ABSTRACT:**

In the Modern era, we are trying to build an Artificial Intelligent System, which could think like human,Act like human, Think Rationally, Act Rationally. But to build an AI system, there occurs several problems. Here in this paper we are going to state all those list of problems. All the problems were basically grouped as different categories like: Mundane Tasks, Formal Tasks and Expert Tasks. These tasks specify the difficulties involved in making a system as intelligent system. Intelligence is the ability to acquire knowledge and apply it when needed.AI is developing with such an incredible speed, sometimes it seems magical. There is an opinion among researchers and developers that AI could grow so immensely strong that it would be difficult for humans to control. Humans developed AI systems by introducing into them every possible intelligence they could, for which the humans themselves now seem threatened.
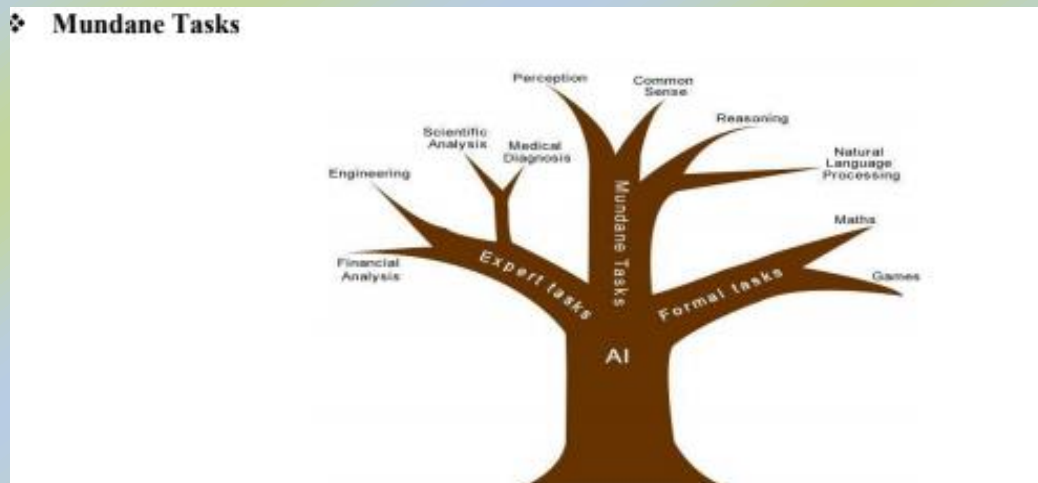
**Perception:**

The Basic Problems that arises while constructing or building an Intelligent System are:

        -vision

         -speech

        The AI system can't see like human, at the same time it can't speak also. For this what we have to do is we should make some alternatives such that it can view the things and it can speak. But these tasks are tough and time taking processes.

Natural language

-understanding

-Generation

-Translation

Generally the human being understands what other speaks and does translation if required and human can also generate his/her own statements. But an AI based system can''t understand or Translate or generate the sentences by its own. So this is also a big problem.

Formal Tasks

Normally if the human being is to be trained in any game, we will explain him what to do and what not to do. We will also train him by showing some examples or previous played games. But this type of training is not possible for AI based systems. If we want to train them, we should write coding for every step or point. It''s a time taking and tough task. The following are some of the examples of Formal tasks.

### Additional problems the current Expert system facing

Expert Systems cannot operate in a Vacuum, any more their human counterparts can. They need access to corporate databases and access to them needs to be controlled just as it does for other systems. They are often embedded within larger application programs that use primarily conventional programming techniques.

### CONCLUSION

To conclude, AI is a rapidly evolving space. Although AI is more than Deep Learning, Advances in Deep Learning drive AI. Automatic feature learning is the key feature of AI. AI needs many detailed and pragmatic strategies which I have not yet covered here. A good AI Designer should be able to suggest more complex strategies like Pre-training or AI Transfer Learning AI is not a panacea. AI comes with a cost (skills, development, and architecture) but provides an exponential increase in performance. Hence, AI is ultimately a rich company's game. But AI is also a 'winner takes all' game and hence provides a competitive advantage. The winners in AI will take an exponential view addressing very large scale problems i.e. what is possible with AI which is not possible now?

## Dr. K. Venkataeswara Rao

Associate Professor

## "Various Ways for Improving the System Performance"

**Abstract**

The research presented in this paper concerns the development of a methodology for monitoring and continuous performance improvement. The proposed approach is derived from the classical Deming cycle adapted to a real industrial environment. The approach consists of four phases: Monitor, Analysis, Action and Review (MAAR); these phases are summarized in a single information panel that allows to improve the monitoring process. This paper presents a discussion of the real case study application of the methodology in area manufacturing of ANSALDO STS S.p.A. The case study discussed here shows the application of basic principles, management tools and techniques towards performance improvement in a manufacturing plant. The innovative issues of the MAAR approach developed regard: the possibility to apply the methodology to wide fields of enterprises (as maintenance, quality management, design, financial, etc.) and the real-manufacturing orientation. The results show the real benefits obtained by the implementation of the proposed methodology.

| Methodologies proposed | Main scientific literature references |
|---|---|
| Graphs with Results and Actions Interrelated (GRAI) | Doumeingts (1985); Doumeingts et al. (1995); Grislain and Pun (1979) |
| Integrated Compute-Aided Manufacturing Definition (IDEF0) | Bravoco and Yadav (1985); Ross (1985) |
| Structured Analysis and Design Technique (SADT) | Marca and McGowan (1988); Ross and Schoman (1977); Ross (1985); Santarek and Buseif (1998) |
| Structured Systems Analysis and Design Method (SSADM) Structured Systems | Down et al. (1988); Eva (1992) |
| GRAI Integrated Methodology (GIM) | Doumeingts et al. (1995) |
| Strathclyde Integration Method (SIM) | Carrie and Macintosh (1997); Pandya et al. (1997) |
| GI-SIM (GRAI grid, IDEF0 and SIMAN tools) | Al-Ahmari and Ridgway (1999) |

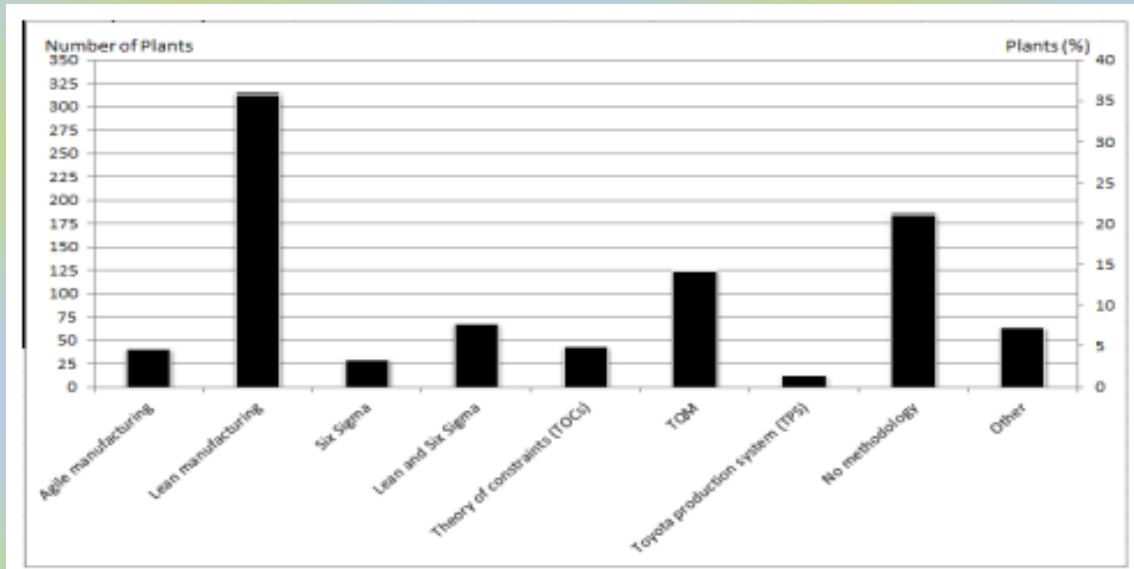Table:Methodologies Proposed in Literature

Fig:Methodologies and Improvements

**Discussion of Case Study**

This methodology has been studied experimented, designed and implemented in a production environment. The methodology has been studied in Ansaldo STS Italy of Tito and was first implemented on electronics and certification of electronics boards, and later extended to the whole factory to monitor and control the entire production of all products.

1) The tool has proved to be efficient and effective for monitoring and controlling production quality.

2) It has further helped improve the already high levels of quality products that distinguish Ansaldo STS

3) Its implementation also monitor launches of new production has proven to be an effective and efficient way to improve performance and product quality since the first launch of new products.

4) It has also proven to be flexible, effective and efficient in the short term and has allowed structuring a system of continuous improvement.

5) The methodology presented itself as an effective, efficient and dynamic indicator to monitor any process or system.

**Conclusions**

The study presented in this paper focuses on the implementation and deployment of a methodology for continuous performance improvements defined MAAR charts at ANSALDO STS S.p.A., Italy area Manufacturing. The MAAR charts approach is based on the integration of the continuous improvement process throughout the following steps: Monitor, Analysis, Action and Review.

## Mr. K. SundeepSaradhi

Assistant Professor

## "A Review of Different Machine Learning Models to Analyze Collective Behaviour in Social Networks"

**Abstract**

The importance of machine learning for social network analysis is realized as an inevitable tool in forthcoming years. This is due to the unprecedented growth of social-related data, boosted by the proliferation of social media websites and the embedded heterogeneity and complexity. Alongside the machine learning derives much effort from psychologists to build computational model for solving tasks like recognition, prediction, planning and analysis even in uncertain situations. Therefore, it is significant to study the synergy of machine learning techniques in social network analysis, focus on practical applications, and open avenues for further research.

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Figure 1: A Graphical Representation of Social Network
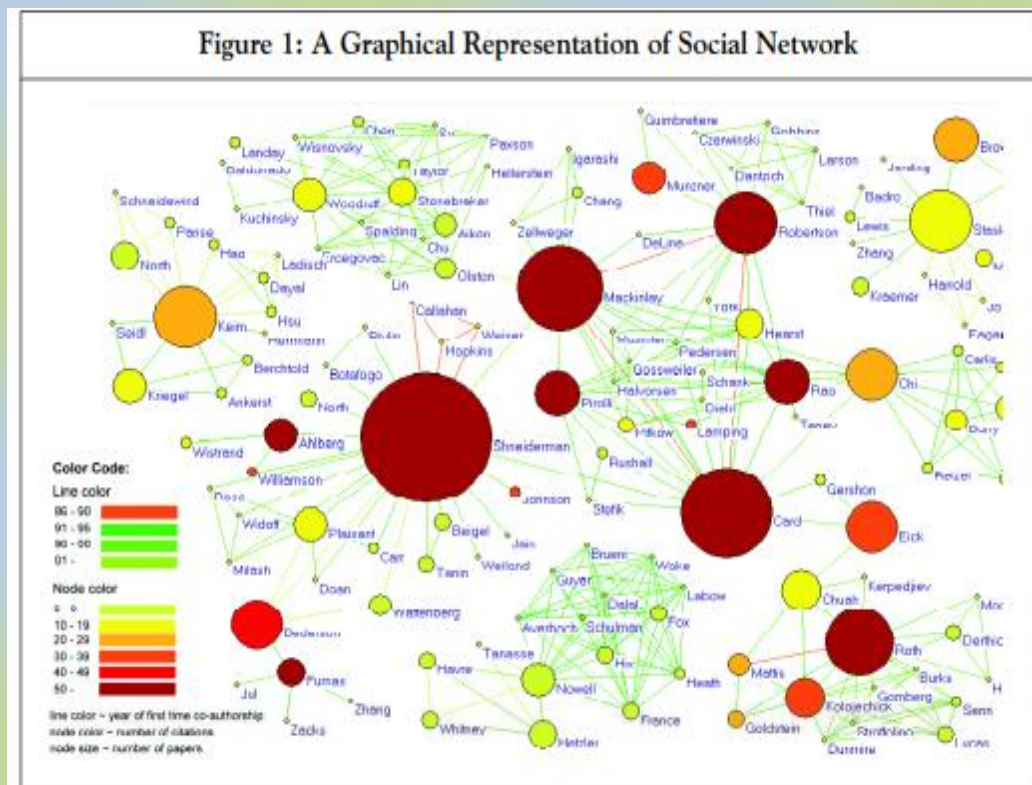
## Level of Analysis

An axiom of the social network approach is that social phenomena should be primarily conceived and investigated through the properties of relations between and within the units, instead of properties of the units themselves (Scott, 2000). Thus, one common

criticism of social network theory is that individual agency is ignored, although this is not the case in practice (agent-based modeling, Scott, 2000). Precisely because both singular and combination of relations form network identity, both are essential for broad enterprise network analysis. Social networks are self-organizing, emergent and complex, such that a globally coherent pattern appears from the local interaction of the elements that make up the system. The patterns are more apparent as network size increases. The social networks are analyzed by the number and type of relationship relevant to the researcher's theoretical questions.

**Conclusion**

 Following a review of social network analyses, it is found that previous works are mostly based on matrix and graph-based techniques. In different researches, same techniques are applied for different social domains. The old techniques are suitable for fewer data; they mostly rely on visual analysis. Whereas with the proven capability of machine learning-based information extraction techniques, it can be claimed that machine learning-based social network analysis can perform better for huge data even in uncertain environments, and they can be automated to extract information reducing bias.

## Mr. T. N. V. S. Praveen

Assistant Professor

## "An Advanced Ensemble Enhanced Feature Selection Approach for Intrusion Detection System"

**Abstract :**

At present, network security needs to be concerned to provide secure information channels due to increase in potential network attacks. Intrusion Detection System (IDS) is a valuable tool for the defense-in-depth of computer networks.. Some of the features may be redundant or contribute little to the detection process; their usage can decrease the intrusion detection efficiency as well as taking more computational time for the effective response in real time environment. The purpose of this paper is to identify important input features in building IDS that is computationally efficient and effective. In this work we propose the feature selection method by ranking them using the various feature selection algorithms like InfoGain, GainRatio, OneR, RELIEF etc. Combining the features of the best algorithms whose performance is better by comparing the result with each other using J48 classifier.

| Label | # Training Dataset | # Testing Dataset |
|---|---|---|
| Normal | 12533 | 1609 |
| Probe | 11656 | 1607 |
| DoS | 12555 | 1628 |
| R2L | 52 | 200 |
| U2R | 995 | 1719 |
| Total Records | 37791 | 6753 |

The pre-processing of NSL-KDD dataset involves following steps [16]:

Table:Details of Connection Records in used dataset

It is clear that the total number of connection records to be used for training and testing of the classifiers is very large. Moreover the number of connection records related to U2R and R2L is very less as compared to other attack classes. So, in order to reduce non-uniformity in the dataset, we randomly selected maximum of 44,000 connection records of each attack type for the purpose of training and testing the classifiers in an unbiased manner. In order to test the classifiers, we randomly selected 37,791 connection records as a training data set. Table 1 shows the detail of 6763 connection records in the test dataset. KDD dataset contains symbolic as well as continuous features. The dataset is pre-processed before it is used for training and testing the classifiers.
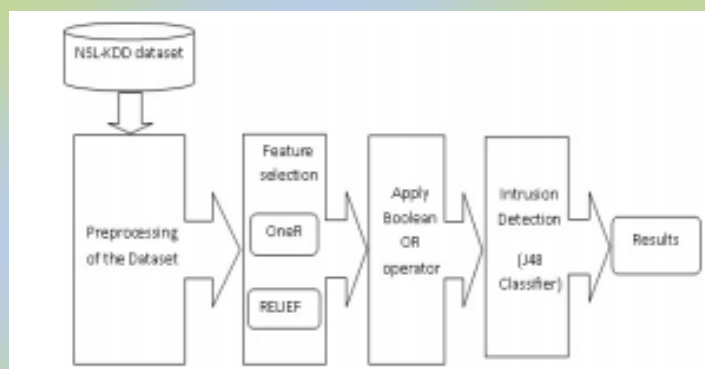
Fig:The structure of the proposed feature selection method for network intrusion detection.

| FS Algorithms | KDDCup99 | Chi-square | | Relief | | Infogain | | Gainratio | | SVM | | OneR | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of Attributes | 41 | 10 | 15 | 10 | 15 | 10 | 15 | 10 | 15 | 10 | 15 | 10 | 15 |
| Accuracy with J48 | 61.39 | 65.39 | 64.91 | 66.51 | 64.88 | 63.05 | 65.07 | 63.46 | 61.94 | 62.14 | 60.22 | 65.56 | 65.25 |
| Training time (sec.) | 7.67 | 2.24 | 4.21 | 2.62 | 5.06 | 2.17 | 3.12 | 2.82 | 3.74 | 3.28 | 4.74 | 2.93 | 3.25 |

Fig: Comparison of Various Feature Selection Algorithms

## Conclusion

Focus on research we proposed the feature selection approach in Intrusion detection, earlier most of the existing IDS's use all 41 features in the network to evaluate and look for intrusive patterns and some of these features are redundant and irrelevant. To solve this problem we proposed a method for feature selection by combining different feature selection algorithms for intrusion detection. We used the feature selection method using union of the two best algorithms i.e. OneR& Relief.. The goal of this work is to reduce the dimensionality of the data while retaining as much as possible of the variation present in the original dataset. Tests and comparison are done on KDDcup99 dataset. The test data contains 4 kinds of different attacks in addition to normal system call. Our experimental results showed that the proposed model gives better and robust representation of data as it was able to reduces 70.73% of the feature dimension space and approximately 55-60%reduction in training time ,and classification accuracy increased from 61.39% to 66.80% in detecting attacks.

**Dr. P. M. Ashok Kumar**

Professor

## Implementation Of Facial Expression In Chat Box

**Abstract**

Facial expressions are vital in facilitating human verbal exchange and interactions. Additionally, they're used as an essential tool in behavioral research and in medical rehabilitation. facial image primarily based temper detection techniques may offer a fast and realistic method for noninvasive mood detection. the purpose of the existing have a look at became to broaden an wise gadget for facial photograph based expression category the usage of svm& cascade object approach. By using this approach, we can develop an application called  implementation facial expression in chat box. Using- this we can search the perfect smiley from the bunch of emoji's in the chat box. It makes the process easier to find the emoji which ever we want, according to our facial expression and saves time. The proposed methodology has been validated on standard dataset and found to give better results than the existing state of art algorithms in terms of precision and accuracy.

Fig: Different types of emotions

**Feature detection:**

Inside the detected face, facial landmarks along with eyes and eye corners, brows,mouth corners, the nostril tip and so forth. After this, an internal face version is adjusted in feature, size, and scale to be able to healthy the respondent's actual face. You could believe this like an invisible digital mesh that is located onto the face of the respondent:whenever the respondent's face actions or adjustmentsexpressions, the face model adapts and follows at once.Because the name suggests, the face version is a simplified model of the respondent's actual face. It has an entire lot much less

information, (so-called skills) inassessment to the actual face, but it includes precisely those face abilities to get the manner accomplished.Exemplary features are unmarried landmark points(eyebrow corners, mouth corners, nose tip) in addition to characteristic agencies (the complete mouth, the whole arch of the eyebrows and plenty of others.), reflecting the whole "gestalt" of an emotionally indicative face region.
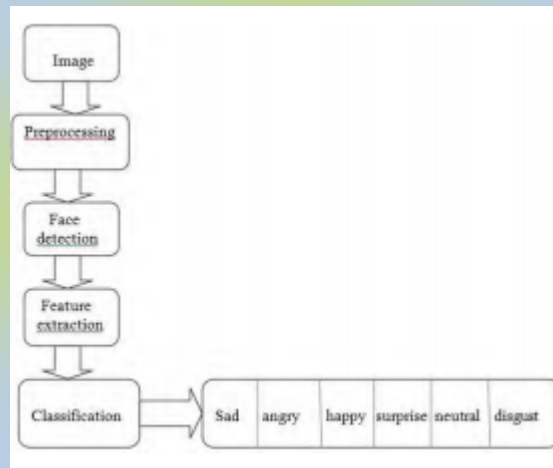


Fig:Proposed Facial Expression Architecture

a facial features popularity algorithm based totally on the advanced optical go with the flow and HMM. Choudhury et al [12] processed special parts inclusive of the eyes and eyebrows inside the manner of the use of consecutive frames subtraction, and then obtained the expression characterization. Shinoharal et al [13] used 35 forms of high-order nearby autocorrelation features as face features. Other researchers calculated the instant invariant of a few areas as expression functions [14, 7]. Lien [7] used HMM to categorize the extracted motion vector sequences in facial features reputation.We consider FACS as a basis for our work. mouth. Successfully, other capabilities which include chin and cheeks are responsible.

CONCLUSION

This work saves time and gives the accurate end result. The system even holds the situation by means of popping the right emoji that is required. the mission that's been evolved in such a way that the utility easies the complete paintings for the consumer and saves the situation and also and shop the time for the user that's flexible for the person to do the paintings without taking any sort of strain to forward or ship the smile to the alternative consumer. . Have been as looking the best smile inside the bunch of emoji inside the chat field is bit more difficult and time conservative. we should improvise the search of the emojis by way of applying "photograph processing" .scanning the facialexpressions.

## Mr. G. Vijay Suresh

Associate Professor

## "Partitioned Based sequential Regression Multiple Imputation for Missing Data Applications"

**Abstract**:

Multiple imputation is particularly well suited to deal with missing data in large epidemiological studies, since typically these studies support a wide range of analyses by many data users. Some of these analyses may involve complex modeling, including interactions and non-linear relationships. Identifying such relationships and encoding them in imputation models, e.g., in the conditional regressions for multiple imputation via chained equations, can be daunting tasks with large numbers of categorical and continuous variables. We present a non-parametric approach for implementing multiple imputation via chained equations by using sequential regression trees as the conditional models. This has the potential to capture complex relationships with minimal tuning by the data imputer. Using simulations, we demonstrate that the method can result in more plausible imputations, and hence more reliable inferences, in complex settings than the naive application of standard sequential regression imputation techniques. We apply the approach to impute missing values in data on adverse birth outcomes with more than 100 clinical and survey variables. We evaluate the imputations using posterior predictive checks with several epidemiological analyses of interest.

### Classification and regression trees

CART models seek to approximate the conditional distribution of a univariate outcome from multiple predictors. The CART algorithm partitions the predictor space so that subsets of units formed by the partitions have relatively homogeneous outcomes. The partitions are found by recursive binary splits of the predictors. The series of splits can be effectively represented by a tree structure, with leaves corresponding to the subsets of units. The values in each leaf represent the conditional distribution of the outcome for units in the data with predictors that satisfy the partitioning criteria that define the leaf. For further discussion of CART, see (3, 14). An example of a tree structure for a univariate outcome $Y$ and two predictors, $X_1$ and $X_2$, is displayed in Figure 1. Units with $X_1 \geq 2$ fall in the leaf labeled $L_1$, regardless of their value of $X_2$. Units with $X_1 < 2$ and $X_2 \geq 0$ fall in the leaf labeled $L_2$, and units with $X_1 < 2$ and $X_2 < 0$ fall in the leaf labeled $L_3$. Thus, if we wanted to approximate the distribution of $Y$ for units with

$X_1 < 2$ and $X_2 < 0$, we would use the values of $Y$ in $L_3$. Since CART provides distributions for units defined by various combinations of $X$, it effectively can result in models with many interaction effects.

$$P = 2/500 \cdot \min\left( \sum I\{(T_{\mathrm{imp},i} - T_{\mathrm{pred},i}) > 0\}, \sum I\{(T_{\mathrm{pred},i} - T_{\mathrm{imp},i}) > 0\}\right),$$

where $I\{\cdot\}$ is the indicator function that equals one if the argument is true and zero otherwise (15). If $T_{\mathrm{imp},i}$ and $T_{\mathrm{pred},i}$ consistently deviate from each other in one direction—which would be indicated by a small $P$-value—the imputation model may be distorting the relationship implicit in the test statistic. To illustrate, suppose that a regression coefficient is consistently larger in the imputed sets than it is in the predicted sets. If this coefficient is estimated to be positive, the association involving this coefficient might be attenuated by the imputed values. Essentially, if the imputation models do not recreate important features in the observed data, they may not generate plausible values for the missing data.

## CONCLUSION

Researchers often avoid tree-based regressions because they can be difficult to interpret unless the trees are relatively small. Interpretation also can be strained by the volatility of the fitting process: when small changes in the observed data would lead to different initial splits, the resulting trees could be very different from the original one. As an imputation engine, however, neither of these issues is particularly consequential. We are not interested in interpreting the trees or making inferences related to them. Their ability to provide sensible imputations, and preserve complexity, is all that matters.

With that in mind, one might consider using more exotic nonparametric modeling techniques like random forests, neural networks or Bayesian additive regression trees (4, 14). Such techniques generate results that can be even more difficult to interpret, but their predictive performance can be excellent. One drawback of these approaches compared to CART is the typically much slower speed of the fitting algorithms. This is especially important when using posterior predictive checks; for example, performing imputations along with the posterior predictive checks in the adverse birth outcome study conservatively requires half a million model fits. Nonetheless, we anticipate increased use of nonparametric methods to implement MICE as computing power continues to grow.

## Internship Details

| Company | Student Count |
|---|:---:|
| 21st CENTURY SOFTWARE SOLUTIONS | 1 |
| ARETE It Solutions | 14 |
| AZURE SKYNET SOLUTIONS PVT | 3 |
| Biztimeit | 1 |
| C2N It Services Pvt Lmtd | 1 |
| CLOUD TECHNOLOGIES,HYDERABAD | 10 |
| CLOUD EYE | 1 |
| CODENT SOFTWARE, VIJAYAWADA | 6 |
| COIGN CONSULTANCY, HYD | 3 |
| CSA SOFTWARE SOLUTIONS,GUNTUR | 2 |
| Dhruvataechno Solutions | 1 |
| DSQUARE TECH LABS HYD PVT LTD | 3 |
| ELECTRONICS CORPORATION OF INDIA | 17 |
| HALTRACK HYDERABAD | 1 |
| Hitachi Consulting | 1 |
| INCLINE INVENTIONS PVT | 1 |
| INDIAN INSTITUTE OF TECHNOLOGY | 1 |
| INTERNSHALA,GURGAON | 1 |
| Krest technologies and pancome business | 2 |
| KREST TECHNOLOGIES,AMEERPET, | 4 |
| MSR PROJECTS, | 1 |
| Netrich IT Solutions | 3 |
| PubMat,Pune | 1 |
| RELGO | 1 |
| SELLGLOBALLY InfoTech, Paradise Circle, | 19 |
| Smart Park infra projects pvt.Lmt | 1 |
| SOURAB INFOTECH PVT LTD, | 3 |
| SUBRAINS SOLUTIONS PVT | 20 |
| SURA TECHNOLOGIES,PARADISE | 6 |
| Sunrise incubation hub | 1 |
| TCS | 1 |
| WEBTECH LABS HYDERABAD | 9 |
| Xiotech | 1 |
| Total | 141 |

# Placement Summary

| S. NO | ACADEMIC YEAR | NO OF STUDENTS PLACED | MAX PACKAGE (In Lakhs) |
|---|---|---|---|
| 1 | 2018-19* | 64 | 7.0 |

# Placement Details

| S.NO | Name of the Company | No of students selected | ANNUAL SALARY (LACS) |
|---|---|---|---|
| 1 | TCS DIGITAL | 03 | 7 |
| 2 | O. C. TANNER | 01 | 6 |
| 3 | HANSA SOLUTIONS | 01 | 4 |
| 4 | EFFTRONICS | 01 | 4 |
| 5 | INFOSYS | 07 | 3.6 |
| 6 | HCL | 06 | 3.6 |
| 7 | GGK TECHNOLOGIES | 02 | 3.5 |
| 8 | VEDA IIT | 01 | 3.5 |
| 9 | SYNTEL | 05 | 3.5 |
| 10 | WIPRO | 09 | 3.5 |
| 11 | SNOVASYS | 02 | 3.43 |
| 12 | TCS CODEVITA | 10 | 3.36 |
| 13 | TCS NINJA | 16 | 3.36 |
| 14 | ACHALA IT SOLNS | 04 | 3 |
| 15 | L-CUBE TECHNOLOGIES | 02 | 3 |
| 16 | ZENQ | 02 | 3 |
| 17 | KEKA TECHNOLOGIES(INTERN) | 01 | 2 |

# Indian Game Summit 18





**Students making games in GAMATHON**

# NCC



*P. Anusha (III CSE) participated in LIDC (Local Independence Day Camp) Parade held at Srikakulam from 07-08-2018 to 16-08-2018.*



81 Cadets participated in "International Yoga Day" on 21-06-2018.

68 Cadets participated in "Motivational Class" on 09-07-2018.



115 Cadets participated in "B Certificate Distribution" on 10-07-2018 hosted at LBRCE.

45 Cadets participated in "SwachhBharath Rally" at Velvadam on 9-09-2018.



37 Cadets participated in "SwachhBharath" at Girls Hostel on 16-09-2018.

147 Cadets participated in "SwachhBharath" cleaning K L Rao Statue on 20-09-2018.



112 Cadets participated in "SwachhBharath" cleaning Public Park on 25-09-2018.

# NSS

- Blood Donation Camps.

Tree Plantation:.

AIDS Awareness Program.



World Health day Activities.

Special Camps in Rural Areas.

# SAHELI Club Events

- "Saheli-Girls club" of LBRCE organized Rangoli competition on 26th December 2018 for all interested girl students of LBRCE from 2:00 to 4:10 PM. Total 104 teams participated in this event.

- Competition on "Constitutional and Legal Entitlements of the Women" on 03-12-2018 and 04-12-2018.

- An Awareness Session on Child Abuse and Child Rights on 28th Sep,2018.

- Induction Program for 1st year B.Tech Girl students on 04-07-2018.

# Editorial Board

# Acknowledgements

At the end, we would like to extend our sincere gratitude to our management for their constant support. Also we would like to thank our Principal, Dr. K. Appa Rao and Mentor Dean, Dr. R. Chandrashekaram for their encouragement. We would also like to thank our HOD Dr. Ch. Venkata Narayana for the innovative ideas for the additions made to our magazine, and Faculty for shaping the TECH-TALK. Also our gratitude to our fellow members of the editorial board and department for their support to the TECH-TALK. Lastly we would like to thank all the faculty members, students and all stakeholders for their valuable inputs.

*-The Editorial Team*
*TECH-TALK*

# TECH-TALK
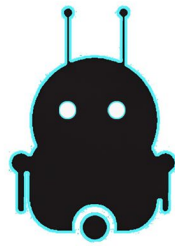
" Education is a social process. Education is growth. Education is not a preparation for life; education is life itself "

COMPUTER SCIENCE

ENGINEERING