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Dr. B. Srinivasa Rao, Head & Professor, I T

#### **EDITORS**

Mr. M. Vijay Kumar, Sr Assistant Professor

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#### **FORE WORD**

Department of Information Technology involves researching, designing, developing in current trends of computing systems. It gave me great satisfaction to know that department has come up with its own magazine, "Tech- Era". The way they presented it was unique, very creative and hope it will serve as a motivational and technological source for the students to exhibit their inherent talents and improve their skills. I would like to express my appreciation to whole team members of Tech-Era including faculty coordinators who really made it possible.



Dr. K.APPA RAO PRINCIPAL

Congratulate the department of IT, LBRCE for bringing out the prestigious bi-annual magazine, Tech-Era. I am sure that the magazine will provide a platform for students and faculty members to expand their technical knowledge and sharpen their hidden literary talent and also strengthen all round development of the students. My congratulations to the editorial board who took the responsibility for the arduous task Dr. B. Srinivasa Rao most effectively.



Dr. B. Srinivasa Rao Professor & HOD





# DEPARTMENT OF INFORMATION TECHNOLOGY VISION AND MISSION

#### **DEPARTMENT VISION**

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

#### **DEPARTMENT MISSION**

**DM1**: To impart quality education with a well-designed curriculum, consistent with industry requirements, that equips the student to face the career challenges.

**DM2.**: To extend the student's learning beyond the curriculum, through workshops on cutting edge technologies.

**DM3**: To strengthen creativity and team spirit of the students by providing a conducive environment, preparing them to face the challenges posed by the IT industry.

**DM4**: To develop life-long learning, ethics, moral values and spirit of service so as to contribute to society through technology.

#### 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.

**PEO2**: Exhibit sound knowledge in the fundamentals of Information Technology and apply practical Experience with programming techniques to solve real world problems.

PEO3: Demonstrate self-learning, life-long learning and work in teams on

multidisciplinary projects.

**PEO4**: 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 modem engineering and IT tools including prediction and modelling 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. Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

- **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

**PSO1:** Organize, Analyze and Interpret the data to extract meaningful conclusions.

**PSO2**: Design, Implement and evaluate a computer-based system to meet desired needs.

**PSO3:** Develop IT application services with the help of different current engineering tools.

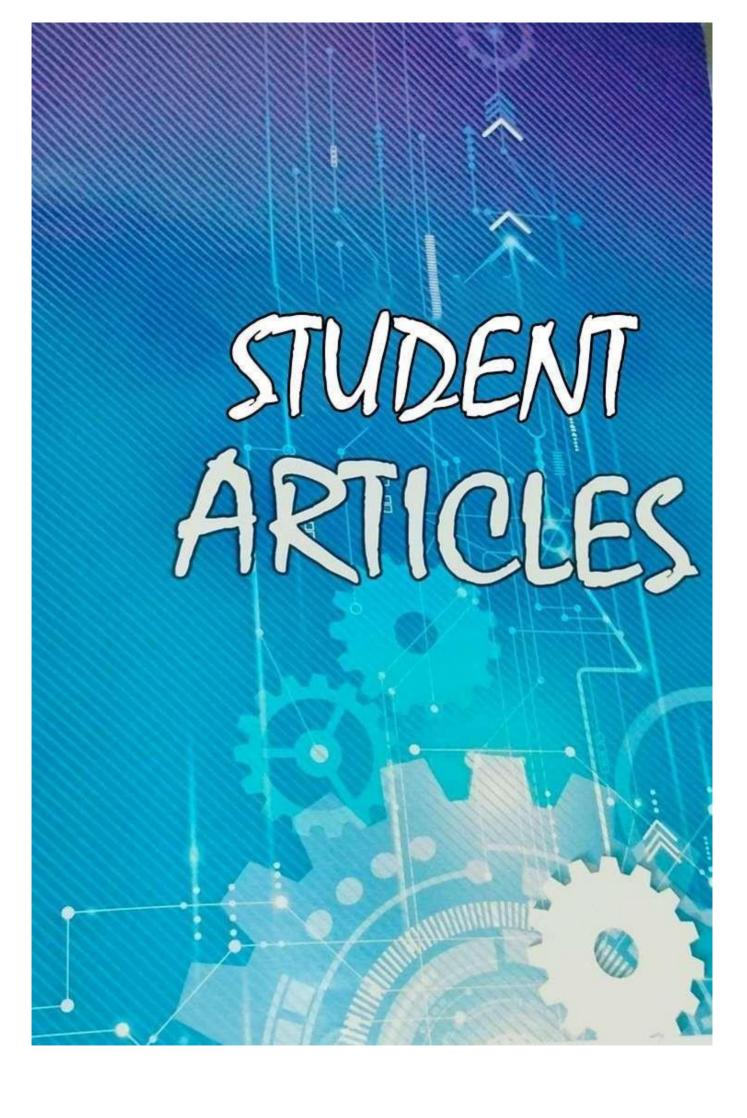
#### **About the Department**

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, 120 students in the year 2019. It is the one of the most emerging

programmes in LBRCE. As IT plays a remarkable role in 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 Cloud Computing, Android data, marketing, Social application, Big Digital networking and Digital communication for solving many social and business problems.

The department strives to be a centre for excellence, innovation and research with dedicated faculty, highly motivated students, state-of-the-art facilities and an innovative teaching-learning environment. The department was accredited by the National Board of Accreditation (NBA) for 3 years i.e 2008 and 2019 (Under Tier-I), valid up to Academic Year: 2021–22. The department has consistently demonstrated its potential for excellent research through sponsored research projects, consultancy work, high-quality scholarly publications, text books, open-source software and other professional contributions. Several research and consultancy projects are also underway as part of various MoUs with reputed industry and academic organizations. Our students have consistently achieved 100% placements and have demonstrated a high level of success in pursuing post graduates at top universities of the world as per QS World University Rankings, like Massachusetts Institute of Technology, Carnegie Mellon University, Yale, Columbia, Purdue and in the IITs & IIMs.

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.



## **Consolidated Data**

S.NO	Articles -3	Papers-6	
1	Brain Rot: The hidden Cost of Rapid	Real-Time Communication for Disabled	
	Technological Advancement	People, 2024 International Conference on	
		<b>Emerging Systems and Intelligent</b>	
		Computing	
2	Digital: Detox- Ca you survive without	The Influence of Accurate Weather	
	your phone	Forecastes On Crop Guidance	
3	<b>Device Less Computing- The future of</b>	<b>Innovative Approaches In Facial Expression</b>	
	seamless digital interaction	Recognition: A Hybrid Deep Learning	
		Perspective	
4		<b>Enhancing Phishing URL Detection With</b>	
		Transformr-Based Features	
5		Automatic Parking System Using Deep	
		Learning and Internet of Things	
6		A Novel Ant Colony Based Genetic Approach	
		Neural Learning for Defect Prediction in	
		Software Products	

## Brain Rot: The Hidden Cost of Rapid Technological Advancement

CURRENT BURNING TOPIC

#### 'Brain rot' named Oxford Word of the Year 2024

'Brain rot' is defined as "the supposed deterioration of a person's intellectual mental or especially viewed as the result of overconsumption of material (now particularly online content) considered to be trivial unchallenging. Also: something characterized as likely to lead to such deterioration".

Experts noticed that 'brain rot' gained new prominence this year as a term used to capture concerns about the impact of consuming excessive amounts of low-quality We've all experienced that online content, especially on social foggy feeling after a late media. The term increased in usage frequency by 230% between 2023 and 2024.

#### INTRODUCTION

In the modern era, technology has seamlessly integrated into our daily lives, shaping how we communicate, work, and entertain ourselves. While the benefits of rapid technological advancements are undeniable, there is an overlooked downside-the phenomenon known as "brain rot." This term, often used colloquially, refers to cognitive decline, reduced attention spans, and an increasing dependence on digital devices, which ultimately impact mental acuity and critical thinking abilities.



The Digital Deluge and Cognitive Overload

night and little sleep. It's hard to focus. Productivity We wanes. can feel agitated, anxious, negative, even depressed. If drinking or drug use was involved the night before, we might feel even more lethargic and disoriented.

On the surface, spending a lot of time on your smartphone or in front of a computer may seem harmless. Over the long term, however, brain rot behavior can damage your well-being mentally and emotionally.

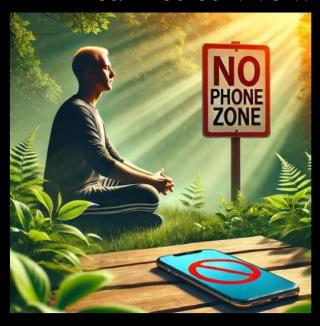
With an overwhelming influx of information available our fingertips, our brains are constantly bombarded with notifications. advertisements. and endless scrolling. The constant exposure to bite-sized content, such as TikTok videos, memes, and short tweets, has diminished our ability to engage in deep reading or critical analysis. Studies indicate that sustained digital engagement can lead to shorter attention spans, making challenging individuals to focus on complex tasks or retain information effectively.

#### The Decline of Deep Thinking

Long gone are the days when people immersed themselves in books or engaged in in-depth discussions for hours. The internet has fostered a culture of instant gratification, where individuals seek immediate answers rather than engaging in analytical thought. Search engines provide ready-made responses, eliminating the need for problem-solving or critical evaluation. This shift has contributed to a decline in independent thinking and creativity.

# **Digital Detox**

# Can You Survive Without Your Phone?



In today's hyper-connected world, smartphones have become an inseparable part of our lives. From social media scrolling to instant messaging and endless notifications, our screens demand constant attention. But have you ever wondered what happens when you take a break from your phone?

#### The Benefits of a Digital Detox:

- ✓ Improved Mental Health Reducing screen time lowers stress and anxiety.
- ✓ **Better Sleep** Avoiding screens before bed improves sleep quality.
- ✓ Enhanced Focus & Productivity Less distraction means more efficiency.
- ✓ **Stronger Relationships** More face-to-face interactions strengthen real connections.
- ✓ Increased Creativity Unplugging gives your brain space to think and innovate.

#### **Challenge Yourself!**

Try a 24-hour phone-free challenge and experience the difference! Can you handle it?

By:- K.KORLAKUNTA RAMESH
IT 3rd year(A)

# Device-less Computing "The Future of Seamless Digital Interaction"

Hello Everyone,

I am **Venkata Mohan Balusupati**, and I am excited to discuss a transformative concept that will redefine the way we interact with technology — Device-less Computing.

#### **Introduction to Device-less Computing**

We are standing at the threshold of a new era in digital interaction, where the very devices we rely on — smartphones, laptops, and even tablets — could become obsolete. This bold vision is known as Device-less Computing, a future where seamless interaction between humans and technology happens without the need for physical devices. With device-less computing, the digital world will no longer be confined to screens or hardware, but will instead become an invisible, ambient presence that interacts with us directly, intuitively, and intelligently.



#### **Emerging Technologies Enabling Device-less Computing**

This exciting evolution is being driven by a combination of cutting-edge technologies that are advancing rapidly:

- Brain-Machine Interfaces (BMI): These interfaces allow direct communication between the human brain and digital systems. Instead of typing or tapping on screens, our thoughts and neural signals will control devices and applications.
- Al-driven Virtual Assistants: These assistants will evolve beyond voice commands, anticipating user needs and taking proactive actions without requiring explicit input.
- Holographic Displays: Screens could be replaced by free-floating holograms that appear only when needed, displaying information directly in our environment.
- Ambient Computing: This concept envisions a world where computing power is embedded into our surroundings, responding automatically to our presence, voice, gestures, and preferences.

#### Minimizing Hardware Dependence

Even today, we can see early signs of this shift away from physical devices. Technologies such as:

- Cloud Computing allows data and applications to live in the cloud, accessible from anywhere.
- Internet of Things (IoT) embeds intelligence into everyday objects, enabling smart environments that interact with users automatically.
- Augmented Reality (AR) blends the physical and digital worlds, making screens and physical interfaces increasingly
- Edge Computing brings real-time processing power closer to the user, enabling faster, localized interactions without centralized servers or devices.

#### The Role of Future Technologies

Looking further ahead, quantum computing and 6G networks will play pivotal roles in accelerating the transition to device-less computing.

- Quantum Computing will offer unprecedented processing power, allowing complex data analysis and decision-making to happen in real-time no personal device needed.
- 6G Networks will provide ultra-fast, low-latency connectivity, enabling seamless interaction between users and their environments, regardless of location.

#### **Redefining Digital Experiences**

As computing becomes increasingly invisible, the way we experience and interact with technology will become more natural, immersive, and intuitive. Instead of tapping, swiping, or typing, we will speak, gesture, and even think to communicate with our digital surroundings. This shift will not only make technology more accessible but will also allow it to blend seamlessly into our daily lives, transforming homes, workplaces, cities, and transportation systems into intelligent, responsive environments.



 Real-Time Communication for Disabled People, 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC), ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481603.

(20761A1266) RISHIK KUMAR BALANAGU

(20761A1263) NITHIN VASIREDDY

(20761A1281) GOPI CHAND GOLLAMANDALA

2. The Influence of Accurate Weather Forecastes On Crop Guidance, 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC), ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481549

(20761A12A9) BHASKAR REDDYPALLI

(20761A1255) LAXMI PRASANNA TATIKONDA

(20761A1279) G.HARSHITHA

(20761A12C6) SOWJANYA VUYYURU

3. Innovative Approaches In Facial Expression Recognition: A Hybrid Deep Learning Perspective, 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC), ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481644

(20761A12C7) PRAVALLIKA YARAMADI

(20761A1282) KEERTHI GORIKAPUDI

(20761A1296) SWARNA LAKSHMI

MANUKONDA

(20761A12A40 AMRUTHA LAKSHMI PANTHANGI

**4.** Enhancing Phishing URL Detection With Transformr-Based Features, 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC), ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481553

(20761A1265) ATMAKURI KARTHIKEYA

(20761A12970 MUNDRU VENU GOPAL

(20761A12C3) VANGAVEETHI SAI RAM

5. Automatic Parking System Using Deep Learning and Internet of Things, 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC), ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481628

(20761A1276) CHINTHALAPUDI SIVA VARA PRASAD

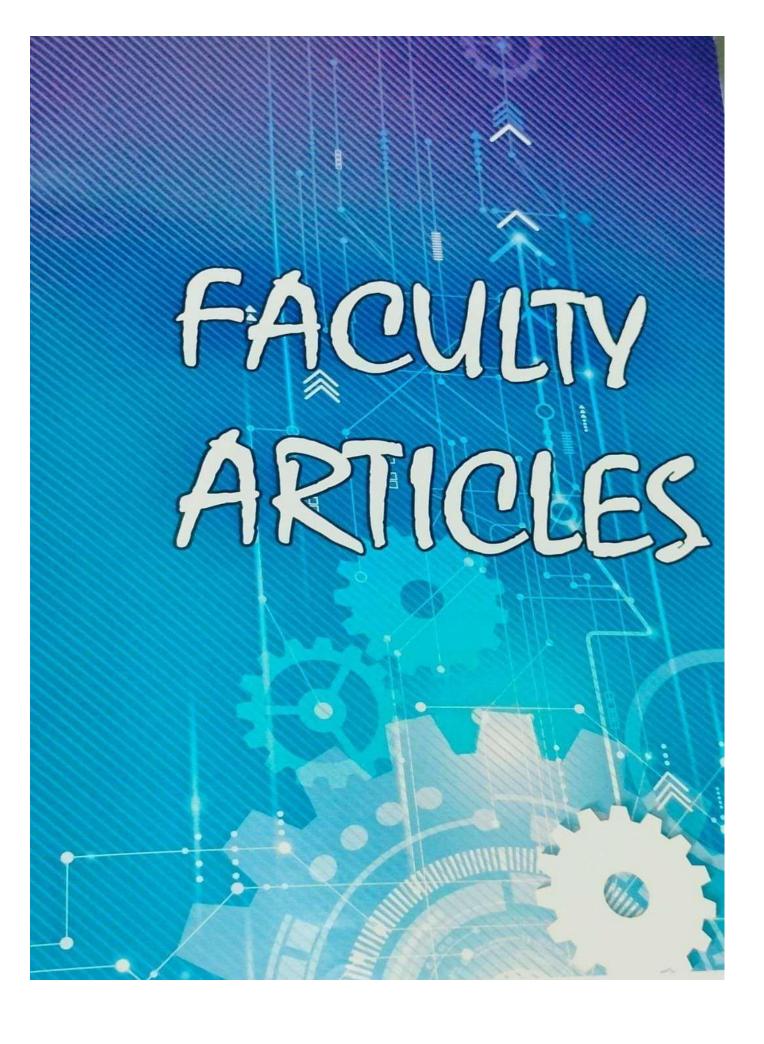
(20761A1236) NIMMAGADDA RISHITHA

(20761A12C1) TOKA SHYAM SATYA VARA PRASAD

(20761A12B3) SHAIK IRFAN ALI

 A Novel Ant Colony Based Genetic Approach Neural Learning for Defect Prediction in Software Products, 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC), ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481623

> (20761A1258) BINDHU MADHAVI TUMMALA (20761A1263) P ASHOK REDDY (20761A1288) D DURGA PRASAD



#### **Consolidated data**

SCI	ESCI	SCOPUS J	SCOPUS C	Open Acces s	Total	UGC	Books	Chapters	Patents
01	0	02	15	0	18	0	0	0	00

# Articles Published in Reputed Journals & Conference by the Faculty of Information Technology

# Enhancing Local Feature Detection Performance with Sequential CNN Architecture in Keras

B. Srinivasa Rao, Vemula Naga Bindu Sri, Uday Kiran Pamarthi & Patan Firoz Khan International Conference on Data Analytics & Management, volume 786 pp 371–387, ISBN 978-981-99-6546-5, https://doi.org/10.1007/978-981-99-6547-2 29

Phishing URLs are fraudulent websites created to trick visitors into downloading malware or divulging personal information. Identifying phishing URLs is essential to maintaining internet security and safety. However, blacklists and keyword matching are frequently used in classical detection techniques, which are readily manipulated by adversaries. This study suggests a unique method for phishing URL identification that makes use of transformers and machine learning. With our method, phishing and authentic websites may be reliably distinguished by automatically extracting and learning discriminative characteristics. We assess our method using an extensive dataset of authentic and phishing URLs from the real world and show that it can identify phishing URLs that have never been seen before. Our findings imply that deep learning may greatly increase the efficacy and accuracy of phishing URLs.

Dr. B. Srinivasa Rao

#### **Identification of Fake Users on Social Networks and Detection of Spammers**

B. Srinivasa Rao, Badisa Bhavana, Gudimetla Abhishek & Peddiboyina Hema Harini. International Conference on Data Analytics & Management, volume 785, pp 137–149 ISBN 978-981-99-6543-4, <a href="https://doi.org/10.1007/978-981-99-6544-1">https://doi.org/10.1007/978-981-99-6544-1</a> 11

Numerous people use social networking services on a global scale. The way people interact with social media platforms like Facebook and Twitter has the significant impact per day life, frequently with negative outcomes. Popular social networking sites have actually been targeted by spammers who spread a lot of unwanted and damaging stuff there. As an illustration, Twitter has become one of the most widely utilized platforms ever, which has led to an annoying quantity of spam. By sending undesired users' tweets in order to advance businesses websites, or fake users waste resources and also hurt actual people. Additionally, the capacity for transmitting incorrect information to people using phoney identifications has grown, aiding in the spread of dangerous goods. Identifying spammers, unauthorized Twitter users has recently developed a major research issue on today's social networks online (OSNs). Phoney customers, link spam, and content based on trending topics that is likewise spam. The

solutions that are provided are also contrasted based on a variety of criteria, such as individual, web content, graph, structure, and temporal components. We hope that the research study that has been presented will serve as an important resource for academics looking for one of the most significant recent developments in Twitter spam identification on a single platform.

Dr. B. Srinivasa Rao

# **Speed of Diagnosis for Brain Diseases Using MRI and Convolutional Neural Networks** *B. Srinivasa Rao, Vankalapati Nanda Gopal, Vatala Akash & Shaik Nazeer , International Conference on Data Analytics & Management,* volume 785, pp 501–514, ISBN:978-981-99-

6543-4, https://doi.org/10.1007/978-981-99-6544-1 38

Accurately diagnosing brain diseases is crucial for effective treatment and improved patient outcomes. Magnetic Resonance Imaging is a regularly used technology in the investigation of brain illnesses including Alzheimer's disease, brain tumors, and multiple sclerosis. This study proposes a Convolutional Neural Network-based automated brain illness classification method utilizing MRI images. The proposed method leverages a dataset of MRI images of four brain diseases, namely Alzheimer's disease, tumors of brain, multiple sclerosis, and healthy brains. We trained and compared different CNN architectures, including VGG16 and fine-tuned ResNet. Our CNN model achieved remarkable accuracy on both the training and testing sets. Specifically, we achieved an impressive training accuracy of 99.01% and a testing accuracy of 95%, outperforming VGG16 and fine-tuned ResNet. We derived many assessment measures, including accuracy, recall, and F1-score, to further evaluate the effectiveness of our model. Our results demonstrate the potential of CNN-based approaches in accurately and automatically classifying brain diseases using MRI images. Our proposed approach has the potential to be a valuable tool for healthcare professionals, improving patient outcomes and quality of life. The developed model is capable of classifying Alzheimer's disease, brain tumors, multiple sclerosis, and their respective stages. Automated classification of brain diseases using CNNs could enable early detection and precise diagnosis of these diseases, leading to improved treatment and patient care...

Dr. B. Srinivasa Rao

#### **Identifying Suicidal Risk: A Text Classification Study for Early Detection**

Devineni Vijaya Sri, Anumolu Bindu Sai, Valluri Anand & Karanam Manjusha, International Conference on Data Analytics & Management, volume 785, pp 163–174, ISBN 978-981-99-6543-, <a href="https://doi.org/10.1007/978-981-99-6544-1">https://doi.org/10.1007/978-981-99-6544-1</a> 13.

Language usage is affected by suicidal intent that is conveyed on social media. Many atrisk users rely on online forum websites to discuss their issues or find out information about related duties. Our study's main goal is to share ongoing research on automatically identifying suicidal postings. We developed a method in order to identify individuals who might be at suicide risk by analysing data from social networking sites like Reddit. To achieve this, we plan to apply a variety of classification techniques, including both deep learning and traditional machine learning methods. To this purpose, we compare our results to those of other classification methods using a combined LSTM-CNN model. Our experiment reveals that combining word embedding techniques with neural network architecture may produce the best relevance classification results. Furthermore, our results show how deep learning architectures may be used to build a viable model for a suicide risk assessment by excelling at a variety of text classification tasks..

#### Devineni Vijaya Sri

# Prediction of Traffic Accident Severity Based on Decision-Level Machine Fusion and Deep Learning

B. Deepak Raj, Mynam Ganga Bhavani, Mynam Bhargavi & Sureddy International Conference on Data Analytics & Management, volume 786 pp 389–404 ISBN: 978-981-99-6546-5 https://doi.org/10.1007/978-981-99-6547-2 30

Highway traffic accidents remain the biggest cause of mortality notwithstanding an increase in web traffic awareness. Road accidents pose a serious hazard to people's lives and property in emerging nations. Traffic accidents are caused by a variety of factors, some of which are more important than others in determining how serious an accident is. Data extraction methods can help with the prediction of key aspects of collapse intensity. In this study, utilising Random Forest, it was discovered that a number of characteristics have a strong correlation with the seriousness of highway crashes. Range, temperature, wind chill, humidity, exposure, and wind orientations are the main factors influencing surprise severity. To forecast the severity of traffic accidents, this study blends RFCNN, or Random Forest and Convolutional Semantic Network, with existing deep learning and artificial intelligence models. Comparing the effectiveness of the proposed strategy to a variety of fundamental learner classifiers is necessary. The crash statistics for the USA from February 2016 to June 2020 are among the data considered in the analysis. The RFCNN beat previous models with 0.991 precision, 0.974 accuracy, 0.986 recall, and 0.980 F-score when used to predict the seriousness of accidents using the 20 most important functions

B. Deepak Raj

#### A Effective Method for Predicting the Dyslexia by Applying Ensemble Technique

S. K. Saida, Yanduru Yamini Snehitha, Narindi Sai Priya & Avula Srinivasa Ajay Babu , International Conference on Data Analytics & Management volume 785 pp 151–161 ISBN 978-981-99-6543-4, <a href="https://doi.org/10.1007/978-981-99-6544-1">https://doi.org/10.1007/978-981-99-6544-1</a> 12

Dyslexia is a condition where a person will face difficulties in certain tasks including reading, writing, speaking, and identifying sounds. Around 10% of people globally struggle with this issue. The most important step in preventing dyslexia is early identification. There are several ways to estimate the risk of dyslexia, where we have developed a model which allows the user to specify their language vocabulary, memory, speed, visual discrimination, audio discrimination test results. The model will determine the user's individual risk of dyslexia after receiving input from the user. The approach we used included data preparation, data preprocessing, model training, model testing, and model construction. Predicting Risk of Dyslexia-PLOS ONE dataset is used. Dyslexia can be identified using machine learning classification techniques like Decision Trees, Random Forests, and Support Vector Machines. When compared to individual classification strategies, the ensemble technique in the proposed work predicts the risk of dyslexia with a better degree of accuracy. Here, we consider integrating GridSearch CV, Support Vector Machine, and Random Forest. Accuracy, precision, recall, and F1-score were taken into consideration as outcome measures.

S. K. Saida

#### Path planning design for a wheeled robot: a generative artificial

Kailash Kumar Borkar, Mukesh Kumar Singh, Ratna Kishore Dasari, Atul Babbar, Anish Pandey, International Journal on Interactive Design and Manufacturing, Volume 18, Issue 1, pp 1-12 ISSN,1955-2513, <a href="https://doi.org/10.1007/s12008-023-01721-x">https://doi.org/10.1007/s12008-023-01721-x</a>

This article suggests a generative method of path planning design for wheeled robots in narrow streets that uses a high-speed emerging generative AI algorithm—the generative adversarial networks (GANs). The proposed GAN-based architecture efficiently provides accurate footstep planning design for TurtleBot4 on the ROS (Robot Operating System) platform. The designed robot's perception of its surroundings allows it to generate a precise path for navigation during travel. Even though various algorithms, such as A\* and RRT\* (rapidly exploring random tree), are often employed to plan the path, they need more efficiency in confined spaces. However, deep learning approaches such as GANs have shown remarkable results in solving real-world issues such as image generation and simulation of difficult scenarios in robotics. According to the experiments, the approach based on GAN works better than traditional algorithms such as heuristic Q-Learning and A\*. In comparison to the actual path, it is discovered that the generated path using the path planner based on GAN is approximately 94% accurate.

# Deep learning-based privacy-preserving recommendations in federated learning

Chandra Sekhar Kolli, V. V. Krishna Reddy, Tatireddy Subba Reddy, Mohan International Journal of General Systems pp 1-28 ISSN: 1563-5104 , <a href="https://doi.org/10.1080/03081079.2024.2302605">https://doi.org/10.1080/03081079.2024.2302605</a>

Privacy preservation in recommendations has been increasingly garnering huge interest from the research community owing to the rapid rise in data security and privacy concerns among users. The computation overhead and attaining high recommendation accuracy remain the key issues in the existing methods. In this research, a course recommendation method using Federated Learning (FL) based on Deep Learning is presented. The course recommendation technique is carried out in the local nodes using multiple phases, like agglomerative matrix generation, course grouping, bi-level matching, retrieval of learner-preferred courses, and course recommendation. Here, course grouping is accomplished using Deep Fuzzy Clustering (DFC), and Deep Convolutional Neural Networks (DCNN) performs recommendation. The DFC-DCNN-FL is examined based on accuracy, False Positive Rate (FPR), loss function, Mean Square Error (MSE), Root MSE (RMSE), and Mean Average Precision (MAP) and is found to have attained values of 0.909, 0.116, 0.126, 0.291, 0.539, and 0.925.

V. V. Krishna Reddy

# Designing a Block Chain Based Network for the Secure Exchange of Medical Data in Healthcare Systems

Katru Rama Rao , Satuluri Naganjaneyulu, Applied Artificial Intelligence, Volume 38, Issue 1, pp 1-18, ISSN: 1087-6545, https://doi.org/10.1080/08839514.2024.2318164

Phishing is one of the most popular and hazardous cybercrime attacks. These attacks are designed to steal information used by people and companies to complete transactions. Phishing websites use a variety of indicators in their text and web browser-based data. This research presents a novel approach to classifying phishing websites by making use of the extreme learning machine (ELM). In this study, SVM, light GBM algorithm was used to detect phishing websites according to characteristics such as the length of their URLs, the number of capital letters they include and the presence of HTML elements. The findings indicate that ELM has a classification accuracy of 94.2% when it comes to phishing websites. This demonstrates the potential of ELM to classify websites that are used for phishing and to improve the safety of users who do their activities online.

#### **BMI Estimation via Facial Image Analysis**

B.Srinivasa Rao; Y.Ashok Kumar; V.Vinay Sai; G. Srinu, 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC) ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481611

Convolutional Neural Networks (CNN) are utilized in "Face to BMI" project to estimate Body Mass Index (BMI) through facial feature analysis. method uses a trained CNN model & facial detection technique to estimate BMI after gathering facial features from input photos. project's components include uploading photos, executing BMI detection algorithm, & building & loading BMI & facial recognition models. This innovative program provides accurate BMI assessment based on facial features & suggests personalized insurance plans that align with expected BMI. project increases access to healthcare & personalized insurance solutions by combining state-of-the-art technology & medical expertise.

Dr. B. Srinivasa Rao

#### Thyroid Nodule Detection Using Deep Learning Strategies

Satuluri Naganjaneyulu; Rangisetty Sree Lakshmi; Shaik NagulMeeraBee; Medagam Sai Krishna ReddY 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC) ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481585

Detection of thyroid nodule is an important part in medical imaging because they occur more often and can be of any form from benign to malignant. If we detect the thyroid nodules in the beginning stages itself we can provide better treatment for the patient. The proposed model helps in thyroid nodules detection by using Convolutional Neural Network(CNN) and classifies thyroid nodules into functional, malignant and benign categories. First step involves loading and preprocessing the pictures dataset. These pictures contain various types of thyroid images collected from various medical imaging methods like ultrasound scanning reports. The images are shrunked, grayscaled and labelled based on file keyword names similar to real world diagnosis classification of medical photographs. The dataset is divided mainly into the training set and the testing set so that model is developed using the training data can be checked for it's performance by extracting patterns from the testing data. During training, maintaining the consistency in pixel values between photos, data normalization keeps features of any image occupying the center stage. The CNN model is constructed using layers with an aim to identify complex patterns in image. Maxpooling layers are useful in extracting main features, where convolutional layers are used to find spatial patterns. Dense layers formed afterwards helps to develop the intricate representations which are required for a precise classification. After the model architecture is defined, the annotated photos are used to train the model architecture. By using the optimizer "Adam" and the "Categorical cross entropy loss function", the model gets trained with the ten epochs which improve the models performance. It is very useful since it helps the doctors to quickly determine the precise type of thyroid nodules, therefore planning early diagnosis and therapy planning for the patient. This helps in speeding up the decision making by improving classification process, resulting prompt patient interventions. These type of automated methods also scale medical diagnostics which is helpful in providing services to large population round the globe by reaching out to the places with limited special healthcare.

Dr. Satuluri Naganjaneyulu

#### A Novel Ant Colony Based Genetic Approach Neural Learning for Defect Prediction in Software Products

Rajendra Gurram; M Babu Reddy; Bindu Madhavi Tummala; K Phaneendra; P Ashok Reddy; D. Durga Prasad Kumar 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC) ISBN:979-8-3503-4986-3 , 10.1109/ESIC60604.2024.10481623

Software defects prediction is a process that involves using various techniques and models to anticipate and estimate the occurrence of defects or bugs in software during its development or maintenance lifecycle. The main goal of software defects prediction is to identify areas of the software that are more likely to have defects, so developers and testers can focus their efforts on those specific parts to improve the software's overall quality. By predicting potential defects early in the software development lifecycle, developers and testers can focus on addressing these issues before they become critical problems. This leads to reduced rework and lowers the cost of fixing defects. Predicting defect-prone areas helps in allocating testing and review resources more effectively. Instead of evenly distributing efforts, teams can concentrate on the parts of the software that are more likely to have defects, leading to better testing coverage. In most of the existing approaches, the prediction of defects are carried out using statistical models and machine learning models. Imbalanced datasets, where the number of defect-free instances significantly outweighs the

number of defective instances, can lead to biased predictions. Statistical models may struggle to capture the patterns of defect-prone instances adequately, leading to lower recall or sensitivity. The proposed model implements genetic neural network for prediction of defects at early stages. ANNs are capable of capturing complex non-linear relationships between software metrics and defect occurrences. This is particularly advantageous when dealing with software defects, as the relationships between metrics and defects may not always be linear. Genetic algorithms can be used to automatically search for the optimal subset of features and fine-tune hyper parameters of the ANN. This helps in finding the most relevant features and achieving better predictive performance.

Rajendra Gurram

#### Automatic Parking System Using Deep Learning and Internet of Things

Saddi Jyothi; M. Rami Reddy; Chinthalapudi Siva Vara Prasad; Nimmagadda Rishita; Toka Shyam Satya Vara Prasad, Shaik Irfan Ali 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC) ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481628

To address the labour - intensive requirements of traditional parking lot operations, we have developed an automated system for access control, occupancy tracking, and revenue processing. The proposed system employs computer vision and deep learning techniques to autonomously handle parking lot ingress and egress while reducing operating costs. Vehicles entering and exiting the automated parking facility will be detected using infrared sensors interfaced to a Raspberry Pi microcomputer. License plate images will be captured by a Pi camera module and processed in real-time using an optical character recognition (OCR) algorithm based on a convolutional recurrent neural network architecture optimized for number plate recognition. Human access control can be handled in parallel by leveraging object detection models like Faster R-CNN or YOLO to differentiate pedestrian from vehicle ingress. The onboard occupancy tracking functionality will alleviate the need for manual counting of available spaces. Additionally, real-time parking availability stats will be published to a monitoring website allowing customers to view open slots prior to arrival. Lot capacity constraints can be configured to automatically disable entrance gates when maximum capacity is reached.. By autonomously controlling access gates, tracking and publishing occupancy stats, and extracting revenue data from license plates, the proposed automated parking lot system aims to reduce operating costs while creating a scalable solution applicable to facilities ranging from apartment complexes to large shopping malls. The use of a low-cost, open-source development platform promotes maintainability while allowing for customized enhancements..

#### The Influence of Accurate Weather Forecastes On Crop Guidance

Rehana Begum; 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC) ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481549

India is currently the world's second-most populous country, with the bulk of its citizens working in agriculture. Farmers are spreading fertilizer in arbitrary amounts without understanding the amount and composition of deficiencies, and they are cultivating the same crops over and over again without attempting a new type. Thus, this has a direct impact on crop output in addition to acidifying the soil and destroying the top layer. Thus, in order to improve the system for farmers, we used machine learning techniques in its construction. In order to determine which crop is appropriate to plant given the anticipated weather and soil conditions, we will create a model that will forecast the weather for every month. All things considered, your proposal has a great deal of potential to change Indian agriculture. The aforementioned advice, along with an emphasis on precision, usability, and accessibility, will help you develop a useful tool that supports sustainable food production and gives farmers more authority..

Rehana Begum

# **BERT-LogReg: Enhancing Phishing URL Detection With Transformr-Based Features**

J. Geetha Renuka; Atmakuri Karthikeya; Mundru Venu Gopal; Vangaveeti Sai Ram; Kota Rosaiah 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC), ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481553

Phishing URLs are fraudulent websites created to trick visitors into downloading malware or divulging personal information. Identifying phishing URLs is essential to maintaining internet security and safety. However, blacklists and keyword matching are frequently used in classical detection techniques, which are readily manipulated by adversaries. This study suggests a unique method for phishing URL identification that makes use of transformers and machine learning. With our method, phishing and authentic websites may be reliably distinguished by automatically extracting and learning discriminative characteristics. We assess our method using an extensive dataset of authentic and phishing URLs from the real world and show that it canidentify phishing URLs that have never been seen before. Our findings imply that deep learning may greatly increase the efficacy and accuracy of phishing URLs..

Innovative Approaches In Facial Expression Recognition: A Hybrid Deep Learning Perspective

Pavitra Ramachandrapuram; Pravallika Yaramadi; Keerthi Gorikapudi; Swarna Lakshmi Manukonda; Amrutha Lakshmi Panthangi 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC), ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481644

The extraction of discriminative spatiotemporal video characteristics from facial expression images in video sequences is a major and demanding problem in facial expression recognition (FER). Applications such as security systems, access control, and personalized user experiences—such as emotion analysis, mental health assessment, and human-computer interaction—have seen a major increase in the use of facial recognition technology. The objective of this project is to improve the accuracy and efficiency of face identification procedures by creating a sophisticated facial recognition system that makes use of recurrent neural networks (RNNs). By using deep learning techniques, this research paves the way for future developments in facial expression recognition.

#### Pavitra Ramachandrapuram

#### Real-Time Communication for Disabled People

Karuna Latha Thanukula;Rishik Kumar Balanagu;Nitin Vasireddy;Gopi Chand Gollamandala;Avinash Pyla Abhinaya, 2024 International Conference on Emerging Systems and Intelligent Computing (ESIC) volume ISBN:979-8-3503-4986-3, 10.1109/ESIC60604.2024.10481603

This project aims to train a neural network model and develop a computer application for the actual time interpretation of hand movements in American Sign Language (ASL), with a particular emphasis on fingerspelling. The motivation stems from the historical significance and expressive nature of sign language, recognizing the communication challenges faced by the deaf community due to limited sign language knowledge and interpreter availability. The proposed research approach involves capturing and filtering hand gestures, followed by a classifier to predict the corresponding ASL letter or number. Rigorous testing demonstrates an impressive 98% accuracy for the 26 alphabet letters. The system captures real-time video, processes it through the neural network, and displays the output as text, facilitating seamless communication for bothdeaf individuals and those unfamiliar with sign language. Beyond technological innovation, this research addresses a societal need for accessible and inclusive communication, showcasing the potential of technology in breaking down communication barriers and fostering understanding in diverse communities

# BConvLSTM: a deep learning-based technique for severity prediction of a traffic crash

Surendra Reddy Vinta, Pothuraju Rajarajeswari, M VijayKumar, G Sai Chaitanya kumar, a:School of Computer Science and Engineering, VIT-AP University, Amaravati, India; b:Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur, Andhra Pradesh, India; c:Department of Information Technology, LakkiReddy Bali Reddy College of Engineering, Mylavaram, Andhra Pradesh, India; d:Department of Artificial Intelligence, DVR and Dr. HS MIC,College of Technology, Kanchikacherla, India, INTERNATIONAL JOURNAL OF CRASHWORTHINESS, https://doi.org/10.1080/13588265.2024.2348397

Predicting the severity of crashes has become a significant issue in research on road accidents. Traffic accident severity prediction is essential for protecting vulnerable road users and preventing traffic acci-dents. For practitioners to identify significant risk variables and set appropriate countermeasures in place, explainability of the forecast is also essential. Most previous research ignores the severity of property loss caused by traffic accidents and cannot differentiate between different levels of fatalities and property loss severity. Additionally, while an understandable structure of deep neural networks (DNN) is significantly lacking in existing works, understanding traditional systems is quite simple. An inability to use structural data when describing forecasting and the many attempts to incorporate neural networks afflict the absence of hidden layers. We propose a Deep Learning (DL) framework for forecasting traffic crash severity to overcome the accident severity prediction. It has three steps to pro-cess. Initially, collected input data are cleaned. Data cleaning is performed in a preprocessing step. We conduct experiments on two datasets, A Countrywide (US) Traffic Accident Dataset and UK Road Accident Dataset. The outcomes of the experiments demonstrate that the proposed technique outperformed other approaches and produced the best accuracy.

M. Vijay Kumar

# Departments Events

#### Consolidated data

S.NO	Department Event
1	A SIX DAY ONLINE FDP on GENERATIVE AI FOR DATA VISUALIZATION

**FDP:** A SIX DAY ONLINE FDP on GENERATIVE AI FOR DATA VISUALIZATION"

Event Type: FDP (Online)

Date/ Duration: 24th –29th June2023, Six Days.

#### **Resource Persons:**

- 1. Prof AJOY KUMAR KHAN, Professor & Dept of CSE, Mizoram central university
- 2. Prof ASADI SRINIVASULU, Professor of IT & Head of research, Blue Crest University College, Monrovia, Liberia.
- 3. DR ARINDAM SARKAR Professor & HEAD of Computer Science & Electronics Ramakrishna Mission Vidyamandira, Belur Math, Howrah, WEST BENGAL.
- 4. Shri. MPS SANTHOSH, Implementation & specialist, Accenture-Hyderabad
- 5. Shri. BAPI SAHA, Cyber forensic analyst, CHFI PGDDF Head Cyber Forensics Division at SFSL Tripura

#### Name of Faculty Coordinator(s):

- Dr D Ratna Kishor, Professor, Dept. of IT,LBRCE-Mylavaram
- Dr K Phaneendra, Assoc Professor Dept. of IT,LBRCE-Mylavaram

#### **Target Audience:**

Faculty&industry person's from various institutions & organizations with in the India

#### **Total no of Participants**: 125

#### **Objective of the event:**

- To automate the creation of effective and aesthetically pleasing data visualizations...
- •To assist users in understanding complex data through intuitive visual representations.
- To create visualizations that can adapt and update in real-time based on user interactions or new data.
- To explore and develop new forms of data visualization that leverage AI capabilities.

#### **Outcome of event:**

At the end of the event participants can able to

- Enhanced ability for organizations and individuals to make data-driven decisions.
- Democratization of data visualization capabilities.

- Creation of interactive and engaging visualizations
- Improved ability to share and collaborate on data visualizations

#### Chief Patrons:

Sri Lakireddy Jaya Prakash Reddy, USA, Honorary Chairman Sri Lakireddy Prasad Reddy, USA, Chairman

#### Patrons

Mr. G. Srinivasa Reddy, President

Dr. K. Appa Rao, Principal

Dr. M. Srinivasa Rao Dean Academics & Professor of CSE

Dr. B. Srinivasa Rao Professor & HOD

#### Co-Conveners

Dr. Satuluri Naganjaneyulu Professor

Dr. D. Ratna Kishore Professor

#### Coordinators

Dr. A.V.N. Reddy, Associate Professor

Dr. K. Venu Gopal Associate Professor

Dr. Phaneendra K Associate Professor

#### Organizing committee:

Mrs. M. Hema Latha Sr Asst Prof

Mr. Rajasekhar K

Mr. V.V. Krishna Reddy

Mr. Ch. Sambasiva Rao

Mr. G. Rajendra

Mrs. A. Sarvani

Mr. Raviteja K

Mr. B. Sarath Chandra

Mr. Rajesh Reddy Muley

Mr. M. Vijay Kumar

#### FDP objectives

Generate AI Enables users to quickly generate new content based on a variety of inputs. The main goal of data visualization is to make it easier to identify patterns, trends and outliers in large data sets.

#### Topics to be covered

- Core Concepts in Generative AI
- Advanced Research application and Opportunities in Generative Artificial Intelligence
- · Role of AI in digital forensic
- · Advanced Generative AI techniques
- Ethical consideration and best practice.

#### Schedule:

Dates: 24 th \_29 june 2024

Timings: 2-4 pm every day

#### Resources Persons



Prof. Ajoy Kumar Khan

Department Of Computer Engineering, Mizoram University, Aizawl-796004, India



#### Dr. Asadi Srinivasulu

Professor of IT & Head of Research Data Science Research Lab BlueCrest University, Monrovia, Liberia-1000.



Dr. Kalidas Yeturu Associate Professor IIT Tirupathi



Sridhar Achuta Full stack Engineer Consultant at

Fidelity Investments
California, USA.



#### Bapi Saha

Cyber Forensic Digital Analyst CHFI PGDDF head Cyber Forensics Division at SFSL Tripura



#### Dr. Arindam Sarkar

Head of the Department & Assistant Professor, Department of Computer science and Electronics The University of Burdwan, Visva Bharati, University of Kalyani



#### Dr. Viswanath Pulabaigari

Professor, IIT Sri City, Satyavedu Mandal, Chittoor-517588





#### LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(Autonomous)

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L.B.Reddy Nagar, Mylavaram, NTR(Dt), APINDIA. 521230.

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#### "Generative AI for Data visualization"

24-29 June 2024



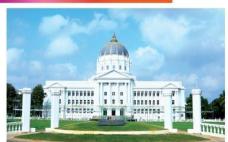
#### Organized by

#### Department of Information Technology

https://www.lbrce.ac.in/it/index.php

in Association with

#### About the institute



Lakireddy Bali Reddy College of Engineering (LBRCE) was founded through Lakireddy Bali Reddy Charitable Trust in 1998 by eminent philanthropist and NRI Entrepreneur Sri Lakireddy Bali Reddy, a Chemical Engineer by qualification. Since the inception, LBRCE aims at co-creating value-based technical excellence, which ultimately leads to the development of the rural area where the college is situated.

Lakireddy Bali Reddy College of Engineering (LBRCE), approved by AICTE and affiliated to JNTUK, Kakinada is an Autonomous Institution since 2010 and has been accredited by NAAC with 'A' Grade (3:20 / 4 in Cycle-2), NBA (ASE, CE, CSE, IT, ECE, EEE, & ME) under Tier-I and ISO 21001:2018, 14001:2015, 50001:2018 Certified. It has also been awarded 2(f) and 12(B) status and Recognized as a 'Colleges with Potential for Excellence' (CPE) by UGC. It ranks in 101-150 Rank Band in NIRF India Innovation Rankings - 2023 and ranked 251-300 band (Under Engineering) in NIRF India Rankings - 2022, 201-250 band (Under Engineering) in NIRF India Rankings - 2020.

#### About the department



The Department of Information Technology at the LBRCE was established in 1999. offers Undergraduate program (B.Tech) in IT and Post-graduate program (M.Tech) in Software Engineering. The B.Tech (Information Technology) program was started in the year 1999 with an intake of 40 students. The intake was subsequently increased to 60 students in the year 2001, 120 students in the year 2019. Currently, our institute enabled high speed Internet bandwidth of 1800Mbps. Since then, it has grown to be a center for excellence, innovation and research with dedicated faculty & staff, highly motivated students, state-of-theart facilities and an innovative teaching-learning environment.

#### Department of IT vision

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

#### Department of IT MISSION

- To impart quality education with a well designed curriculum, consistent with industry requirements, that equips the student to face the career challenges.
- To extend the student's learning beyond the curriculum, through workshops on cutting edge technologies.
- To strengthen creativity and team spirit of the students by providing a conducive environment, preparing them to face the challenges posed by the IT industry.
- To develop life-long learning, ethics, moral values and spirit of service so as to contribute to society through technology

#### **Participants**

Faculty of Engineering from all AICTE Approved Institutions Research Scholars / PG Students / Industry

#### Registration QR Code & Link

https://forms.gle/vbQfZ9mw9Ut2UxQy5

#### **Payment Details**

Complete the payment to this UPI Code through any of the UPI pyament facility

Fee: Rs. 100/- per participant

Meeting Link and Other details of day to day activity will be shared in the WhatsApp group



https://chat.whatsapp.com/CpoGjE9VgJz6k60XMeSPXX

Join WhatsApp group through the lin

#### Registration Form

One Week National Level Faculty Development Program on "GENERATIVE AI FOR DATA VISUALIZATION" 24-29 June 2024

lutation:	Dr./Mr./Ms. Name:	

Participant Category: Faculty/Scholar/Industry Designation:

Department:

Institution/University/Company Name:

Address for Communication:

E-mail:

Phone Number:

Is the Institution Approved by AICTE: Yes / No

Online Form Filled: Yes / No

Signature of the Participant

## SPONSORSHIP CERTIFICATE

This is to certify that Dr./Mr./Ms.

is an employee of our institution/organization/industry.

He/she is permitted to attend the programme, if SELECTED.

He/she will abide by the rules and regulations of the host institute

He/she will abide by the rules and regulations of the host inst

of the Sponsoring Authority with Date and Seal

Address For Communication

Dr.B.Srinivasa Rao, Convener- FDP
Department of Information Technology
LB Reddy Nagar, Lakireddy Bali Reddy College of Engineering,
Mylavaram, NTR(Dt), AP, INDIA. 521230. email: hodit@lbrec.ac.in,

Signature

Phone: 9032833744, 9848303289.





### LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(An Autonomous Institution since 2010)

Approved by AICTE, New Delhi and Permanently Affiliated to JNTUK, Kakinada L.B. Reddy Nagar, Mylavaram, NTR District, Andhra Pradesh - 521230



