Bhoj Reddy Engineering College for Women
(Sponsored by Sangam Laxmibai Vidyapeet,Accredited by NAAC with A Grade approved by AICTE and affiliated to JNTUH)
Recognized by UGC under section 2(f) of the UGC Act, 1956
Vinaynagar, IS Sadan Crossroads, Saidabad, Hyderabad – 500 059, Telangana.
www.brecw.ac.in

Department of Computer Science and Engineering

CSE
Create Simulate Emulate
BRECW

SPARKLES

TECHNICAL MAGAZINE

2024

Volume 6

Founders of Sangam Laxmibai Vidyapeet

Sangam Laxmibai Vidyapeet is a voluntary social action group working for empowerment of women and girls. Registered under the Andhra Pradesh Societies Registration Act, It is a not-for-profit organization working in the field of education since 1952.

The Management of the Vidyapeet strives to uphold the vision of its founders: K. V. Ranga Reddy, Sangam Laxmibai, Mamidi Bhoj Reddy, Bojjam Narsimhulu, Pasham Papaiah, A. Shyamala Devi, P. Lalitha Devi, B. Ramdev, and M. H. Gupta.

Sangam Laxmibai Vidyapeet

K V Ranga Reddy

(1890-1970) Founder
President

Sangam Laxmibai

(1911-1979) Founder
Secretary

M Bhoj Reddy

(1919-2001) Founder
Treasurer

The Vidyapeet manages 5 Educational institutions for Girls and Women

- M H Gupta High School for Girls
- Sangam Laxmibai Junior College for Girls
- K V Ranga Reddy Degree College for Women
- Bojjam Narasimhulu Pharmacy College for Women
- Bhoj Reddy Engineering College for Women

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ABOUT BRECW

Bhoj Reddy Engineering College for Women is run by Sangam Laxmibai Vidyapeet, which has 72 years of experience in the field of education.

BRECW was established in the year 1997 and it is managed by an executive committee consisting of persons with a vast experience in the field of education. Within a short period, it has emerged as one of the premier engineering colleges in the state.

The College campus has the unique advantage of being located in the heart of the city and yet free from noise and dust pollution. With considerable open space and greenery spread over 6.5 acres of land, the campus provides an ideal ambience for the engineering education of girls.

The academic performance of our students has been consistently outstanding with a pass percentage of 85 to 90.

BRECW Vision

BRECW develops confident and articulative young women into dynamic Engineers equipped with skills, knowledge, values and an attitude to contribute to the society.

BRECW Mission

- BRECW is committed to providing a challenging, enriching, safe and supportive technical learning environment through its core values of responsibility, respect and compassion.
- Fosters intellectual, spiritual and personal development of young women so that they develop the tools necessary to lead meaningful lives.
- Offers academic curriculum along with an extensive co-curricular program with the support of dedicated staff who ensure that students identify their strengths and develop their skills such as teamwork, leadership, creativity and entrepreneurship.
- Develops independent, adaptable thinkers with a passion for learning, courage to take risks and initiative to apply what is learned.

Department of Computer Science and Engineering (CSE)

The future of computing systems and information systems rests with the engineers in Computer Science and Engineering (CSE). The Course is designed to advance, evolve and enhance computer science and computing engineering fundamentals to build the intellectual and research capital in the domains of science, engineering and technology. The course endeavors to equip students with skills in the development of computing and IT systems and their proper applications. This has become the core branch of Engineering with all branches depending on it. The department has well established computer laboratories.

Department Vision

- To become a world-class technical center for making women into dynamic Computer Science Engineers of tomorrow

Department Mission

- To impart high quality professional training in a challenging and safe environment with an emphasis on noble values.
- To encourage women engineers to upgrade their programming, analyzing, and developing skills in building computing algorithms for leading meaningful lives.
- To make learning process exciting and interesting through curricular and co-curricular program with staff moulding them into leaders and entrepreneurs.
- To nurture the students with the required skills to solve technical problems of modern society with courage and confidence.

Programme Outcomes (POs)

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

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

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

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

PO5 - Modern Tool Usage:
Create, select and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

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

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

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

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

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

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

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

Program Specific Outcomes (PSOs)

PSO I: Identify suitable data structures and algorithms to design and develop computing solutions for real-life problems.

PSO II: Able to excel in various programming, project competitions and technological challenges laid by professional societies

Principal's Message

Dr J Madhavan
ME, Ph.D, MISTE
MIE Principal
Email: principal.brecw32@gmail.com

Dear Students,

Bhoj Reddy Engineering College for Women (BRECW) has always evolved while maintaining the fundamentals of an outstanding education for our students. BRECW is committed to providing the best possible environment which encourages and celebrates students' academic achievements and love for learning. Our academic results manifest our vision for providing excellent teaching and learning methodologies. Our faculty team motivates students to develop skills specific to their career path and imperative for future job success.

Extracurricular activities stimulate students to discover and develop their unique talents and while building self-esteem as they try new things and learn how they are uniquely talented.

Our technical magazine, Sparkles 2024 showcases such student-generated extracurricular content which is designed and edited by students. My sincere appreciation to the editorial and advisory members for their efforts in bringing out this technical magazine.

HOD's Message

Dr B Raveendranadh Singh
M.Tech(CSE), M.Tech(IT),M.Phil(CS),
Ph.D(CSE-SE), Ph.D(CSE-DS),LMCSI,
LMISTE, MIEEE(USA).
Professor & Head, Dept. of CSE,
BRECW.

Greetings! On behalf of the staff and students of the Department of Computer Science and Engineering at Bhoj Reddy Engineering College for Women (BRECW), Hyderabad, I extend a warm welcome to you. The Department of Computer Science and Engineering (CSE) is a centre of excellence that provides in-depth technical knowledge and opportunities for innovation, supported by up-to-date computer facilities that are on par with those of leading engineering colleges in Telangana.

Ever since its inception in the year 1997 with an initial intake of 40 seats in B. Tech, the department has grown by leaps and bounds, not only in terms of quantity but also in terms of quality. Currently CSE department has an intake of 120 seats in B. Tech.

The department gives exposure to its students, about regular engineering curriculum as well as prepare them to face the challenges of today's corporate world, by inculcating a professional attitude in them. The highly qualified, immensely diligent and experienced faculty is continuously involved in developing the skill set of the students in core courses like Programming, Emerging Technologies, Professional Ethics, Open Source Technologies and as well as hands on experience. All the very best to all students.

FACULTY CONTRIBUTION

List of Faculty members as resource person in STTP/FDP events

Academic year 2023-24

Dr M Vinod – Associate Professor

- Dr. M. Vinod attended the event as a Resource Person for the session titled “Data Mining: Concepts, Techniques, and Real-World Applications” held on 13 March 2024 at Mahaveer Institute of Science and Technology, Hyderabad.
- He delivered an insightful talk on modern data mining techniques, practical applications, and emerging industry trends.
- The session provided participants with valuable exposure to real-world data analytics practices and interactive learning opportunities.

Mr G Dayakar Reddy – Associate Professor

- Mr. G. Dayakar Reddy attended the event as a Resource Person for the session titled “Java: From Fundamentals to Modern Application Development” held on 16 February 2024 at Stanley College of Engineering and Technology for Women, Hyderabad.
- He explained the core concepts of Java programming along with modern application development practices and industry-oriented coding techniques.
- The session helped participants strengthen their programming fundamentals and gain practical insights into real-world software development.

Ms K Usha Rani – Associate Professor

- Ms. K. Usha Rani attended the event as a Resource Person for the session titled “Agile Frameworks: Enhancing Productivity and Team Collaboration” held on 24 January 2024 at Sridevi Women's Engineering College, Hyderabad.
- She delivered an informative session on Agile methodologies, team collaboration strategies, and productivity enhancement techniques used in modern software development environments.
- The program enabled participants to understand the practical implementation of Agile practices and their importance in effective project management.

Ms K Shireesha – Associate Professor

- Ms. K. Shireesha attended the event as a Resource Person for the session titled "Data Structures: Tree and Graph Concepts and Applications" held on 06 January 2024 at TKR College of Engineering and Technology, Hyderabad.
- She explained the fundamental concepts of trees and graphs along with their practical applications in computer science and software development.
- The session provided participants with a deeper understanding of data structures, problem-solving approaches, and real-time implementation techniques.

Ms M Vineela – Associate Professor

- Ms. M. Vineela attended the events as a Resource Person for the sessions titled "DevOps: CI-CD, Automation & Cloud-Native Development" conducted on 28 December 2023 at St. Peter's Engineering College and "Artificial Intelligence: Concepts, Tools, and Applications" conducted on 26 August 2023 at MLR Institute of Technology, Hyderabad.
- She delivered insightful sessions on modern software development practices, DevOps methodologies, Artificial Intelligence concepts, and real-world industry applications.
- The programs provided participants with practical exposure to emerging technologies, automation tools, and innovative problem-solving approaches in the field of computing and software engineering.

Dr P Deepthi – Associate Professor

- Dr. P. Deepthi attended the events as a Resource Person for the sessions titled "Web Technologies: HTML5, CSS3, JavaScript & Frameworks" conducted on 23 December 2023 at Methodist College of Engineering and Technology and "Cybersecurity and Network Defense: Tools, Protocols & Practices" conducted on 21 October 2023 at Vardhaman College of Engineering, Hyderabad.
- She delivered informative sessions on modern web development technologies, cybersecurity practices, network defense mechanisms, and industry-relevant tools and protocols.
- The programs helped participants enhance their technical knowledge and gain practical insights into secure and efficient software and network systems.

Dr E Madhusudhana Reddy – Associate Professor

- Dr. E. Madhusudhana Reddy attended the events as a Resource Person for the sessions titled "Advanced Network Security: Intrusion Detection, Cryptography & Secure Communication" conducted on 25 November 2023 at Vignan Institute of Technology and Science and "Network Security and Firewall" conducted on 03 October 2023 at Sreyas Institute of Engineering and Technology, Hyderabad.
- He delivered expert sessions on network security concepts, intrusion detection systems in modern IT infrastructures. The programs provided participants with practical exposure to cybersecurity tools, threat prevention methods, and advanced security strategies for protecting digital networks and systems.

Dr B Raveendranadh Singh – Associate Professor

- Dr. B. Raveendranadh Singh attended the events as a Resource Person for the sessions titled "AI Technologies: Neural Networks, NLP, and Intelligent Agents" conducted on 15 November 2023 at CMR College of Engineering & Technology and "Agile, DevOps & Software Engineering Best Practices" conducted on 05 September 2023 at Narsimha Reddy Engineering College, Hyderabad.
- He delivered insightful sessions on Artificial Intelligence technologies, neural networks, natural language processing, Agile methodologies, DevOps practices, and modern software engineering approaches.

Dr P Sumalatha – Associate Professor

- Dr. P. Sumalatha attended the event as a Resource Person for the session titled "Artificial Intelligence" held on 13 October 2023 at Matrusri Engineering College, Hyderabad.
- She delivered an informative session on the fundamentals of Artificial Intelligence, emerging AI technologies, and their real-world applications across various domains.
- The session helped participants understand the significance of AI in modern computing and encouraged them to explore innovative technological solutions.

Mr N Satyanandam – Associate Professor

- Mr. N. Satyanandam attended the event as a Resource Person for the session titled "Modern Web Development: HTML5, CSS3, and JavaScript" held on 12 September 2023 at Arjun College of Technology & Sciences, Hyderabad.
- He delivered an engaging session on modern web technologies, front-end development concepts, and interactive website design using HTML5, CSS3, and JavaScript.
- The program provided participants with practical exposure to contemporary web development practices and enhanced their understanding of responsive and dynamic web applications.

FACULTY CONTRIBUTION

List of Workshops/FDP/Refresher courses attended for Academic year 2023-24

G Dayakar Reddy – Associate Professor & Vice Principal

- **5 day FDP:** "Data Science Mastery," organized by Department of CSE / (CyS, DS) and AI & DS VNR Vignana Jyothi Institute of Engineering and Technology, 05-10 February 2024.

Dr B Raveendranadh Singh – Associate Professor & Head

- **19 day FDP:** "Deep learning for NLP and Computer Vision," organized by Chaitanya Bharathi Institute of Technology, 10-28 July 2023.

Dr M Vinod – Associate Professor

- **5 day FDP:** "Data Science Mastery," organized by Department of CSE / (CyS, DS) and AI & DS VNR Vignana Jyothi Institute of Engineering and Technology, 05-10 February 2024.

M Vineela – Associate Professor

- **8 day Online FDP:** "Distributed Ledger Technology," organized by Department of Artificial Intelligence & Data Science, Dr D Y Patil Institute of Engineering and Management Research, Akurdi, Pune, 04-11 December 2023.
- **5 day FDP:** "Recent Trends in Industrial IoT, AI & DS," organized by Vardhaman College of Engineering, Shamshabad, Hyderabad, 27 November - 01 December 2023.
- **6 day FDP:** "Deep Learning for Computer Vision and Its Applications" organized by VNR Vignan Jyothi Institute of Engineering and Technology, Hyderabad, 06-11 February 2024.
- **6 day FDP:** "Emerging Tools & Techniques in Cloud Computing & Data Science" organized by Narsimha Reddy Engineering College (Autonomous), Hyderabad, 19-24 February 2024.

K Shireesha – Associate Professor

- **8 day Online FDP:** "Distributed Ledger Technology," organized by Department of Artificial Intelligence & Data Science, Dr D Y Patil Institute of Engineering and Management Research, Akurdi, Pune, 04-11 December 2023.

P Sumalatha – Associate Professor

- **5 day Online FDP:** "AI Insights: Predictive Power of ML, DL & NLP," organized by Sphoorthy Engineering College, Hyderabad, 14-18 May 2024.

K Usha Rani – Associate Professor

- **5 day Online FDP:** "AI Insights: Predictive Power of ML, DL & NLP," organized by Sphoorthy Engineering College, Hyderabad, 14-18 May 2024.

P Deepthi – Associate Professor

- **5-day FDP:** "AI Insights: Predictive Power of ML, DL & NLP," organized by Sphoorthy Engineering College, Hyderabad, 14-18 May 2024.
- **15-day NEP 2020 Orientation & Sensitization Programme:** "Malaviya Mission Teacher Training Programme," organized by UGC Malaviya Mission Teacher Training Centre, JNTUH, 16-31 January 2024.
- **8-day FDP:** "Distributed Ledger Technology," organized by Department of Artificial Intelligence & Data Science, Dr D Y Patil Institute of Engineering and Management Research, Akurdi, Pune, 04-11 December 2023.
- **5-day FDP**: "Innovative Teaching Methodology-A creative Pedagogy," organized by D Y Patil College of Engineering, 31 July - 04 August 2023.

N Satyanandam – Associate Professor

- **5-day FDP:** "Recent Trends in Industrial IOT, AI & DS," organized by Vardhaman College of Engineering, Shamshabad, Hyderabad, 27 November - 01 December 2023.

N Sudha Laxmaiah – Assistant Professor

- **5-day FDP:** "AI Insights: Predictive Power of ML, DL & NLP," organized by Sphoorthy Engineering College, Hyderabad, 14-18 May 2024.
- **6-day FDP:** "Deep Learning for Computer Vision and its Applications," organized by VNR VJIET, 06-11 February 2024.
- **MOOC Certification:** "Database Management Systems," offered by NPTEL, Grade obtained: Elite, September 2023.

AVS Radhika – Assistant Professor

- **5-day FDP:** "AI Insights: Predictive Power of ML, DL & NLP," organized by Sphoorthy Engineering College, Hyderabad, 14-18 May 2024.
- **5-day FDP:** "Machine Learning," organized by Dr D Y Patil Institute of Engineering and Management Research, Akurdi, 10-14 July 2023.
- **5-day FDP**: "Innovative Teaching Methodology: A Creative Pedagogy," organized by Dr D Y Patil Institute of Engineering and Management Research, Akurdi, 31 July - 04 August 2023.
- **6-day FDP:** "Emerging tools and techniques in cloud computing and data science," organized by Narsimha Reddy Engineering College, 19-24 February 2024.

A Hima Bindu – Assistant Professor

- **5-day FDP:** "AI Insights: Predictive Power of ML, DL & NLP," organized by Sphoorthy Engineering College, Hyderabad, 14-18 May 2024.
- **5-day Workshop:** "Data Analytics using Power BI and Tableau," organized by ExcelR Edtech Pvt. Ltd., 11-15 March 2024.

Pothnak Mounika – Assistant Professor

- **5-day FDP:** "AI Insights: Predictive Power of ML, DL & NLP," organized by Sphoorthy Engineering College, Hyderabad, 14-18 May 2024.

B Kashaiah – Assistant Professor

- **5-day FDP:** "Recent Trends in Industrial IOT, AI & DS," organized by Vardhaman College of Engineering, 27 November - 01 December 2023.

Mohammed Arshad Hussain – Assistant Professor

- **5-day FDP:** "Deep Learning and Artificial Intelligence," organized by ExcelR Edtech Pvt. Ltd., 26 February - 01 March 2024.
- **5-day Workshop:** "Data Analytics using Power BI and Tableau," organized by ExcelR Edtech Pvt. Ltd., 11-15 March 2024.
- **5-day FDP:** "GenAI and Prompt Engineering using Microsoft Copilot," organized by ExcelR Edtech Pvt. Ltd., 15-19 April 2024.
- **5-day FDP:** "Digital Marketing," organized by ExcelR Edtech Pvt. Ltd., 27-31 May 2024.

Amtul Shanaz – Assistant Professor

- **19-day FDP:** "Deep learning for NLP and Computer Vision," organized by Chaitanya Bharathi Institute of Technology, 10-28 July 2023.

B Pravalika – Assistant Professor

- **5-day FDP:** "Recent Trends in Industrial IOT, AI & DS," organized by Vardhaman College of Engineering, Shamshabad, Hyderabad, 27 November - 01 December 2023.

C Saritha – Assistant Professor

- **5-day FDP:** "AI Insights: Predictive Power of ML, DL & NLP," organized by Sphoorthy Engineering College, Hyderabad, 14-18 May 2024.
- **MOOC Certification:** "Discrete Structures," offered by Saylor Academy, Grade obtained: 85.56, July 2023.
- **MOOC Certification:** "Database Management Systems," offered by NPTEL, Status: Completed, September 2023.

Syeda Qurratul Aine – Assistant Professor

- **5-day FDP:** "AI Insights: Predictive Power of ML, DL & NLP," organized by Sphoorthy Engineering College, Hyderabad, 14-18 May 2024.
- **MOOC Certification:** "The Joy of Computing using Python," offered by NPTEL, Grade obtained: Elite, October 2023.
- **MOOC Certification:** "Discrete Structures," offered by Saylor Academy, Grade obtained: 91.35, August 2023.
- **MOOC Certification:** "Project Management: Creating the WBS," offered by Coursera, Grade obtained: Completed, July 2023.

Dr E Madhusudhana Reddy – Professor

- **5-day FDP:** "AI Insights: Predictive Power of ML, DL, NLP," organized by Sphoorthy Engineering College, Hyderabad, 14-18 May 2024.
- **MOOC Certification:** "Computer Communications and Networks," offered by Saylor Academy, Grade obtained: 92.98, October 2023.

FACULTY CONTRIBUTION

List of Patents Published during the Academic Year 2023-24

Dr B Raveendranadh Singh – Associate Professor

1. **Patent Details:**

- **Topic:** An Artificial Intelligence Based Method for Detecting Diabetic Retinopathy
- **Application No**: 202341066711
- **Date of Filing:** 05/10/2023
- **Date of Published/Grant:** 13/10/2023
- **Area:** Computer Science

2. **Patent Details:**

- **Topic:** A System and Method for AI-Enhanced Digital Video Forensics
- **Application No**: 202331064964
- **Date of Filing**: 27/09/2023
- **Date of Published/Grant:** 06/10/2023
- **Area:** Computer Science

Dr P Sumalatha – Associate Professor

1. **Patent Details:**

- **Topic:** Electricity Generation from Wastewater Treatment
- **Application No:** 392682-001
- **Date of Filing:** 2023
- **Date of Published/Grant:** 13/08/2023
- **Area:** Computer Science

Ms Syeda Qurratul Aine – Assistant Professor

1. **Patent Details:**

- **Topic:** A System for Network Intrusion Detection Using Artificial Intelligence
- **Application No:** 202341038564
- **Date of Filing:** 05/06/2023
- **Date of Published/Grant:** 30/06/2023
- **Area:** Computer Science

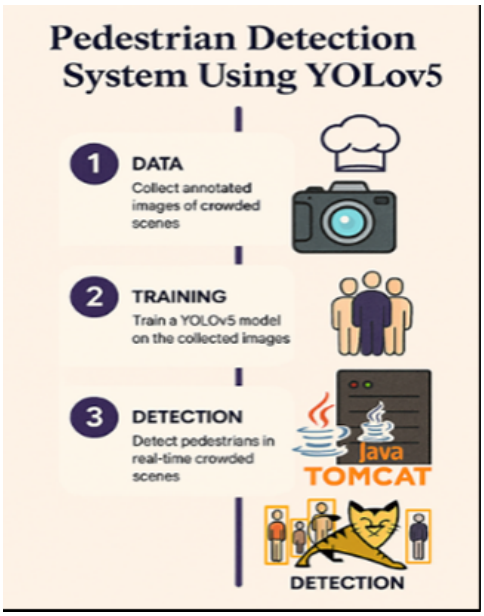
FACULTY CONTRIBUTION

List of Working Models
Academic year 2023-24

Mr G Dayakar Reddy – Associate Professor

Working Model Title: Pedestrian Detection System Using YOLOv5 in Crowded Places

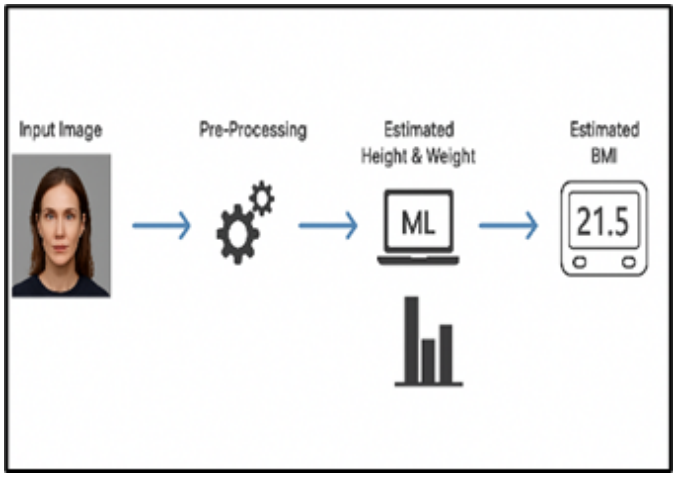
Detecting pedestrians accurately in crowded environments is a major challenge due to frequent occlusions, varying poses, and complex backgrounds. Traditional detection methods often fail to identify individuals reliably, especially in real-time scenarios such as markets, malls, and busy streets. This project aims to develop a pedestrian detection system using YOLOv5, leveraging its advanced deep learning architecture to achieve high-speed and high-accuracy detection even in dense crowds. The solution enhances public safety, traffic management, and surveillance by providing robust and real/time pedestrian localization.



Dr M Vinod – Associate Professor

Working Model Title: Estimation of Height, Weight, and Body Mass Index from Facial Images Using Machine Learning

Accurately estimating physical attributes such as height, weight, and Body Mass Index (BMI) traditionally requires direct measurements, which may be impractical or impossible in many real-world scenarios. Existing manual or questionnaire-based methods are often unreliable and subject to human error. This project aims to develop a machine learning model capable of predicting height, weight, and BMI directly from facial images by learning correlations between facial features and body metrics. The system provides a fast, non-invasive, and automated solution for applications in healthcare, fitness assessment, and population analytics.

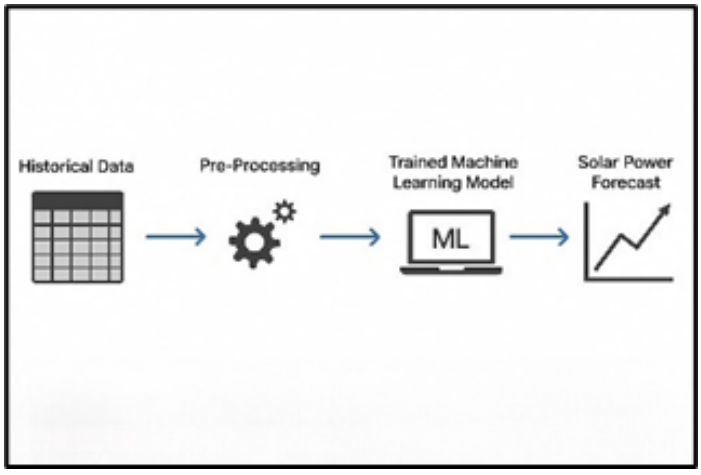


FACULTY CONTRIBUTION

Ms M Vineela – Associate Professor

Working Model Title: Solar Power Generation Forecasting

Solar energy production fluctuates due to varying weather conditions, making it difficult for power providers and consumers to rely on consistent output. Without accurate forecasting, grid management, energy storage planning, and load balancing become inefficient and costly. This project aims to develop a predictive model that forecasts solar power generation using historical data, weather parameters, and machine learning techniques. The solution enables better decision-making, improved energy management, and more efficient integration of solar power into the electrical grid.



Ms K Shireesha – Assistant Professor

Working Model Title: User friendly Menu driven Command Line Application

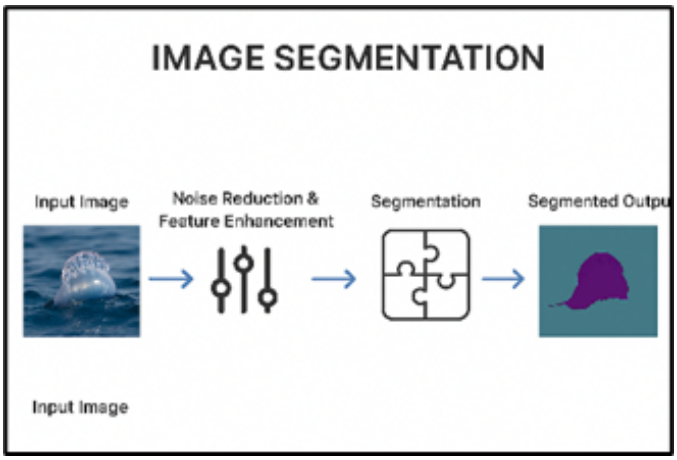
Many command/line tools are difficult for beginners to use due to complex commands and lack of structured navigation. Users need a simple and intuitive interface that allows them to perform tasks without memorizing commands or understanding low/level operations. This project aims to develop a user/friendly, menu/driven command/line application that guides users through various functions using clear options and prompts. The solution improves usability, reduces errors, and provides an efficient way to perform operations through an organized, interactive menu system.

FACULTY CONTRIBUTION

Dr P Sumalatha – Associate Professor

Working Model Title: Image Segmentation

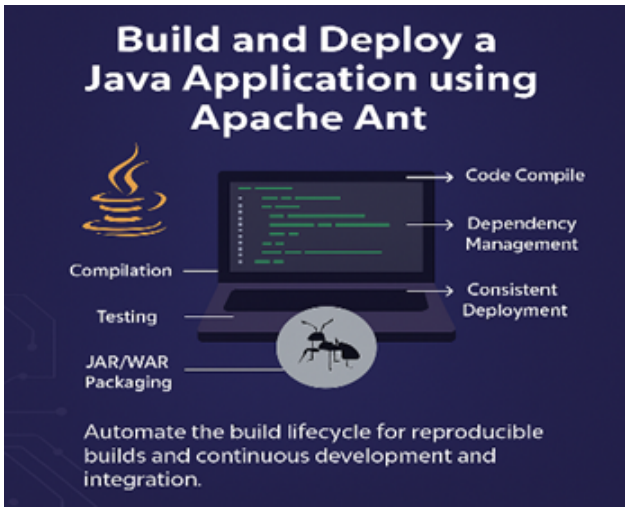
Analyzing complex images requires separating objects, regions, or features, which is difficult using traditional image processing methods. Manual segmentation is time/consuming, inconsistent, and impractical for large datasets or real/time applications. This project aims to develop an automated image segmentation system that accurately partitions an image into meaningful regions using machine learning or deep learning techniques. The solution enhances object recognition, medical imaging, scene analysis, and numerous computer vision applications by providing precise and efficient segmentation results.



Dr P Deepthi – Associate Professor

Working Model Title: Build and Deploy a Java Application using Apache Ant

Managing the build and deployment process of Java applications manually can be time/consuming, error/prone, and difficult to maintain across different environments. Developers require an automated solution that can compile code, manage dependencies, package applications, and deploy them consistently. This project aims to use Apache Ant to automate the build lifecycle of a Java application, including compilation, testing, JAR/WAR packaging, and deployment. The solution improves productivity, ensures reproducible builds, and provides a reliable workflow for continuous development and integration.

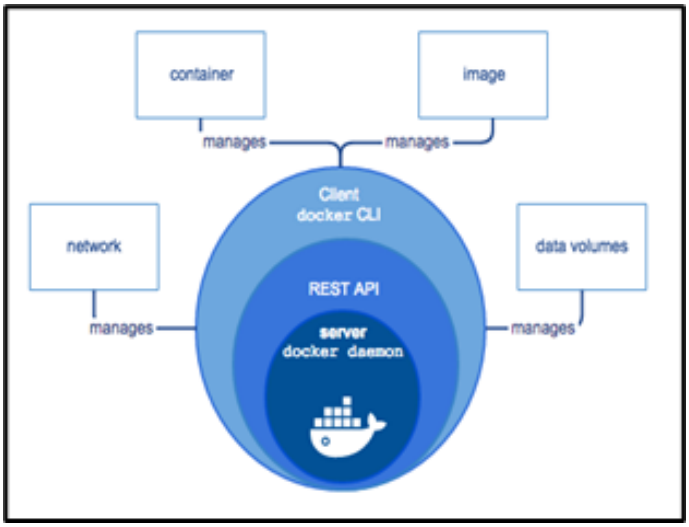


FACULTY CONTRIBUTION

Ms N Sudha Laxmaiah – Assistant Professor

Working Model Title: Use Puppet to install Docker and configure a containerized application

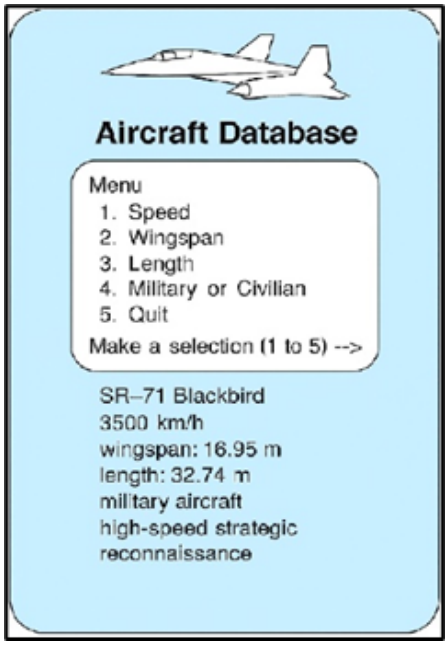
Manually installing Docker and configuring containerized applications across multiple servers can lead to inconsistencies, configuration drift, and operational overhead. Organizations need an automated, repeatable, and scalable method to manage infrastructure and application deployment. This project aims to use Puppet to automate the installation of Docker, manage its configuration, and deploy a containerized application reliably on target nodes. The solution ensures consistent environment provisioning, reduces manual intervention, and enhances the efficiency of managing container/based systems.



Ms AVS Radhika – Assistant Professor

Working Model Title: Air Craft Search: Binary File Lookup Tool

Accessing and searching large aircraft databases becomes difficult when information is stored in raw binary formats without user/friendly tools. Users need an efficient method to retrieve aircraft details based on specific attributes such as name, maximum cruise speed, wingspan, length, and type (military or civilian). This project aims to develop a menu/driven inquiry program that reads a binary file of aircraft records sorted by maximum cruise speed and allows users to perform targeted searches on all key fields except the descriptive phrase. The system provides fast lookups, structured navigation, and an organized way to explore detailed aircraft information.



FACULTY CONTRIBUTION

Ms A Hima Bindu – Assistant Professor

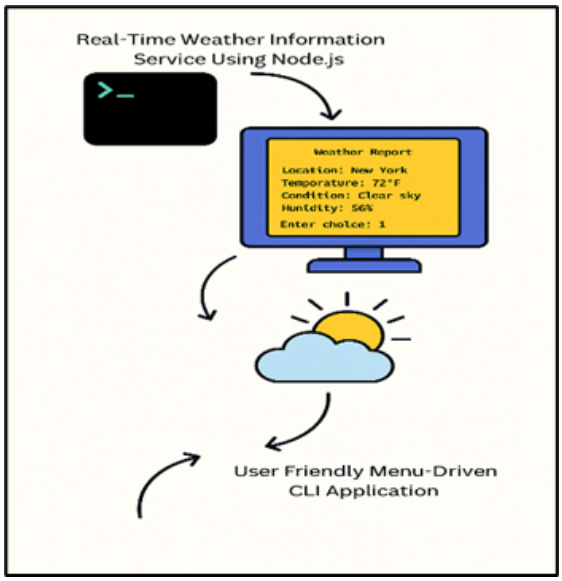
Working Model Title: Optimized ATM Cash Dispensing System

ATMs must dispense cash efficiently using the least number of currency notes to reduce mechanical wear and maintain convenience for users. When a user requests an amount in multiples of ten, the machine must determine an optimal combination of $50, $20, and $10 bills. This project aims to develop a program that calculates and dispenses the minimum number of bills required for any valid withdrawal amount. The solution ensures accuracy, efficiency, and improved user experience in automated cash dispensing.

Ms Pothnak Mounika – Assistant Professor

Working Model Title: Real/Time Weather Information Service Using Node.js

Accessing accurate and timely weather information is essential for users and applications, but raw API data is often complex and difficult to interpret directly. There is a need for a simplified service that fetches real-time weather details and returns clean, customized weather reports. This project aims to build a Node.js and Express-based application that retrieves data from the OpenWeather API, processes it, and provides user-friendly weather insights. The solution enhances accessibility, reduces complexity, and enables seamless integration of weather updates into other systems.

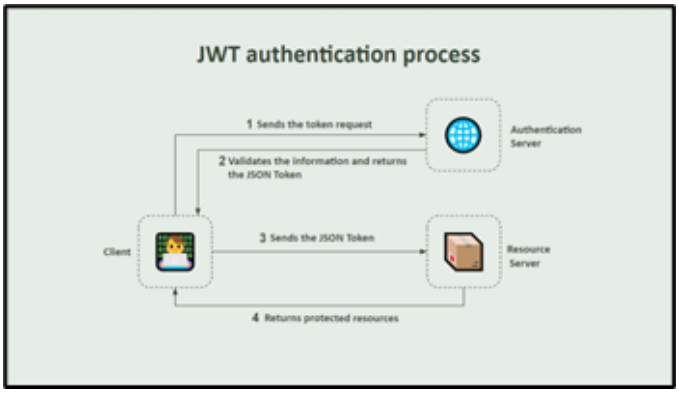


FACULTY CONTRIBUTION

Ms C Saritha – Assistant Professor

Working Model Title: Secure JWT/Based User Authentication and Authorization System

Modern web applications require secure and scalable methods to authenticate users and control access to protected resources. Traditional session/based authentication can be difficult to manage across distributed systems and often lacks flexibility for role-based permissions. This project aims to implement a robust authentication system using JSON Web Tokens (JWT), bcrypt for password hashing, and MongoDB for secure data storage. The solution ensures safe user login, encrypted credential handling, and role/based access control, making it suitable for modern cloud/ready applications.



Ms B Pravalika – Assistant Professor

Working Model Title: Intelligent Mono/Alphabetic Substitution Cipher Cracking Tool

Mono/alphabetic substitution ciphers, though simple, become challenging to break manually due to the large number of possible key combinations. Traditional trial/and/error methods are slow and unreliable, especially for longer ciphertexts. This project aims to develop an automated cipher-solving tool that uses frequency analysis, hill-climbing optimization, and dictionary/based scoring to identify the most probable plaintext. The solution provides an efficient and intelligent approach to decrypting substitution ciphers without prior knowledge of the key.

FACULTY CONTRIBUTION

List of Faculty Conference Papers published for Academic year 2023-24

Ms M Vineela – Associate Professor

1.Paper Details:

- **Title of Paper:** Deployment of Machine Learning Model to Evaluate the Quality of Green Spacing
- **Journal/Conference Name:** 2023 International Conference on New Frontiers in Communication, Automation, Management and Security
- **Website Link:** https://ieeexplore.ieee.org/
- **Year of Publication:** 2024
- **Paper link:** https://ieeexplore.ieee.org/document/10400113
- **ISSN No**: 1803-7232
- **Listed in:** IEEE Xplore / Scopus Indexed

Ms K Shireesha – Associate Professor

1.Paper Details:

- **Title of Paper:** Analysing the Social Media Advertising with ML Model: WEKA
- **Journal/Conference Name:** 2023 International Conference on New Frontiers in Communication, Automation, Management and Security (ICCAMS)
- **Website Link:** https://ieeexplore.ieee.org/
- **Year of Publication:** 2024
- **Paper link:** https://ieeexplore.ieee.org/document/10526074
- **ISSN No**: 979-8-3503-1707-7
- **Listed in:** IEEE Xplore / Scopus Indexed

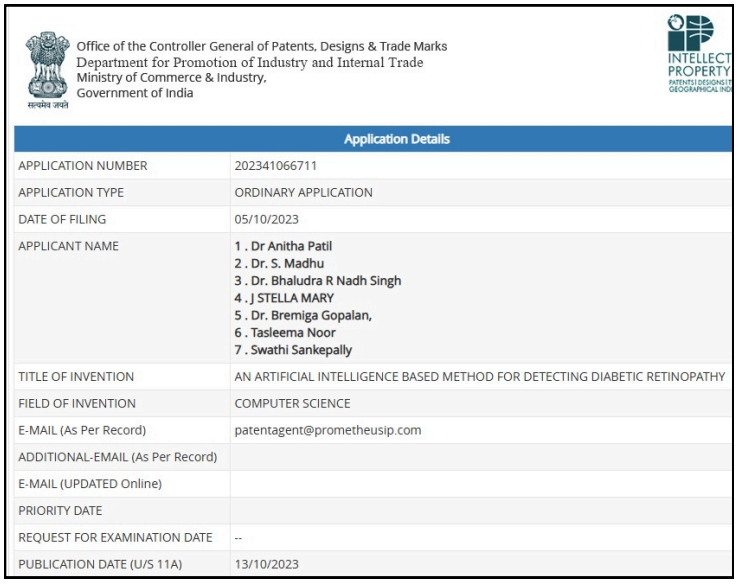
Dr B Raveendranadh Singh – Associate Professor

1.Paper Details:

- **Title of Paper:** Enhancement of Cloud Performance using the Clustering Method of Scientific Workflow Task
- **Journal/Conference Name:** 023 International Conference on New Frontiers in Communication, Automation, Management and Security (ICCAMS)
- **Website Link:** https://ieeexplore.ieee.org/
- **Year of Publication:** 2024
- **Paper link:** https://ieeexplore.ieee.org/document/10526006
- **ISSN No**: 979-8-3503-1707-7
- **Listed in:** IEEE Xplore / Scopus Indexed

STAFF ACHIEVEMENTS

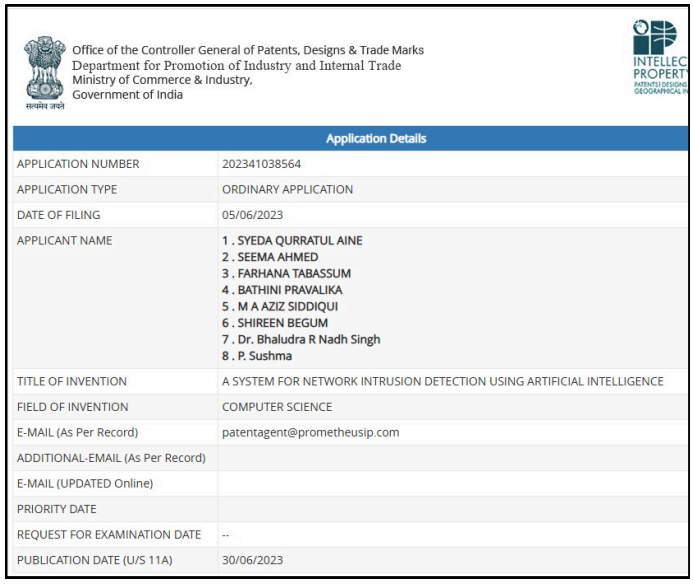
The CSE staff have published patents in various fields



Office of the Controller General of Patents, Designs & Trade Marks
Department for Promotion of Industry and Internal Trade
Ministry of Commerce & Industry,
Government of India

Application Details	
APPLICATION NUMBER	202341066711
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	05/10/2023
APPLICANT NAME	1 . Dr Anitha Patil 2 . Dr. S. Madhu 3 . Dr. Bhaludra R Nadh Singh 4 . J STELLA MARY 5 . Dr. Bremiga Gopalan, 6 . Tasleema Noor 7 . Swathi Sankepally
TITLE OF INVENTION	AN ARTIFICIAL INTELLIGENCE BASED METHOD FOR DETECTING DIABETIC RETINOPATHY
FIELD OF INVENTION	COMPUTER SCIENCE
E-MAIL (As Per Record)	patentagent@prometheusip.com
ADDITIONAL-EMAIL (As Per Record)	
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	13/10/2023

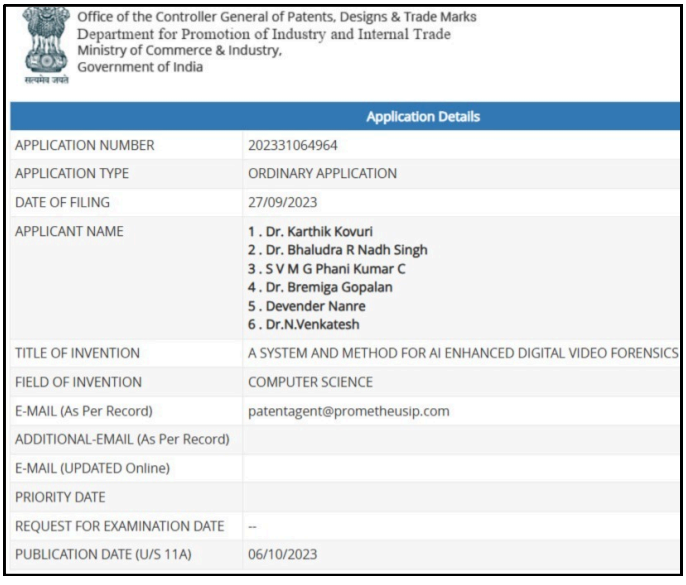
Dr B Raveendranadh Singh - An Artificial Intelligence Based Method for Detecting Diabetic Retinopathy



Office of the Controller General of Patents, Designs & Trade Marks
Department for Promotion of Industry and Internal Trade
Ministry of Commerce & Industry,
Government of India

Application Details	
APPLICATION NUMBER	202341038564
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	05/06/2023
APPLICANT NAME	1 . SYEDA QURRATUL AINE 2 . SEEMA AHMED 3 . FARHANA TABASSUM 4 . BATHINI PRAVALIKA 5 . M A AZIZ SIDDIQUI 6 . SHIREEN BEGUM 7 . Dr. Bhaludra R Nadh Singh 8 . P. Sushma
TITLE OF INVENTION	A SYSTEM FOR NETWORK INTRUSION DETECTION USING ARTIFICIAL INTELLIGENCE
FIELD OF INVENTION	COMPUTER SCIENCE
E-MAIL (As Per Record)	patentagent@prometheusip.com
ADDITIONAL-EMAIL (As Per Record)	
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	30/06/2023

Ms Syeda Qurratul Aine - A System for Network Intrusion Detection Using Artificial Intelligence



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Department for Promotion of Industry and Internal Trade
Ministry of Commerce & Industry,
Government of India

Application Details	
APPLICATION NUMBER	202331064964
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	27/09/2023
APPLICANT NAME	1 . Dr. Karthik Kovuri 2 . Dr. Bhaludra R Nadh Singh 3 . S V M G Phani Kumar C 4 . Dr. Bremiga Gopalan 5 . Devender Nanre 6 . Dr.N.Venkatesh
TITLE OF INVENTION	A SYSTEM AND METHOD FOR AI ENHANCED DIGITAL VIDEO FORENSICS
FIELD OF INVENTION	COMPUTER SCIENCE
E-MAIL (As Per Record)	patentagent@prometheusip.com
ADDITIONAL-EMAIL (As Per Record)	
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	06/10/2023

Dr B Raveendranadh Singh - A System and Method for AI Enhanced Digital Videoforensics

STUDENT ACHIEVEMENTS

Ms Aditi Patro - 22321A0503

Academic Award - Received in all semesters until the award was granted

Ms M Charanya - 22321A0516

Merit and Participation Award - R Programming Hackathon at BRECW in collaboration with Brainovision Solutions

Academic Year: 2023-24

Volume 6

Magazine Details:

Editors:

Chief Editor: Dr B Raveendranadh Singh

Faculty Editor: Dr P Sumalatha

Student Editors:

Ms Aasritha.T - 24321A0503

Ms Aishwarya.B - 24321A0505