DEPARTMENT OF INFORMATION TECHNOLOGY

NEWSLETTER

IT-DIGEST

NEW EDITION

MEERUTINSTITUTE OF ENGINEERING AND TECHNOLOGY

N.H. 58, Delhi-Roorkee Highway, Baghpat Bypass Road Crossing,
Meerut, Uttar Pradesh 250005

VISION

To become a prominent department in nation which provides quality education, keeping pace with rapidly changing technologies; and to create technical graduates of global standards, who develop capabilities of accepting new challenges in the field of Information Technology.

VISION

1. To provide quality education in the core and applied areas of Information Technology, and develop students from all socio-economic levels into globally competent professionals.

2. To impart professional ethics, social responsibilities, moral values and entrepreneur skills to the students.

3. To invigorate students' skills so that they deploy their potential in research and development, and inculcate the habit of lifelong learning.

PROGRAM EDUCATIONAL OBJECTIVES

PEO 1: Students will have successful careers in IT and allied sectors with high quality technical Skills for global competence.

PEO 2: To bring the physical, Analytical and computational approaches of IT to solve real world Engineering problems and provide innovative solutions by applying appropriate models, Tools and Evaluations.

PEO 3: Be adaptable to rapidly changing technological advancements through continuous learning and research to meet the diversified needs of the industry.

PEO 4: Students to imbibe professional attitudes, Team spirit, effective communication and contribute ethically to the needs of the society with moral values.

PEO 5: Encourage students for higher studies and entrepreneurial skills by imparting the quality of lifelong learning in emerging technologies and work in multidisciplinary roles and capacities.

PROGRAM SPECIFIC OUTCOMES

PSO-1: Ability to understand, apply and analyze computational concepts in the areas related to algorithms, machine learning, multimedia, web designing, Data Science, and networking on the systems having different degree of complexity

PSO-2: Ability to apply standard practices and methodologiesin software development and project management using learned concepts and skills to deliver a quality product..

PSO-3: Ability to employ contemporary computer languages, environment and platforms towards enriched career opportunities and zeal for higher studies

DIRECTOR MESSAGE

We, at MIET College strongly believe that the holistic development of students is possible by focusing on coreareas which are Concept Based Learning and Comprehensive Industrial Exposure. We offer 360-degree nurturing for overall grooming and developing global competency.

We are committed to excellence through innovations in the teaching and learning process and have been successful in maintaining high academic standards by taking appropriate steps to bridge the gap between industry and academia. With the advent of new technologies, it is the responsibility of the academic sector to be upgraded as per the needs of the industry. The requirements and expectations of the industrial sector need to be identified and the grooming of students ought to be done accordingly by the academic institution.

Our institution is highly motivated and putting up sincere efforts in this direction. We have developed several state-of-the-art labs, Centres of Excellence (CoE), and Advanced R&D Labs and have signed a good number of MoUs with different industries at the College and Departmental Levels. Centers of Excellence are corporate training centres for renowned industries.

The students are provided with a cohesive platform to work on live industry-based projects. We are also engaged in providing hands-on training in the core and IT sectors and are highly motivated to bring the best out of our

students. We feel privileged to have world-class infrastructure and meticulous faculty and staff members who are committed to providing comprehensive development of students to groom them into successful engineers and empathetic human beings at large.

Prof. (Dr.) S.K. Singh
Director

HOD MESSAGE

IT gives me immense pleasure to introduce the Department of Information Technology — a vibrant hub of innovation, academic excellence, and holistic development. At Team IT, our mission is to nurture future-ready professionals equipped with technical expertise, creative thinking, and a strong ethical foundation.

We are committed to the following objectives:

- Outcome-Based and Skill-Oriented Education:
- Delivering a balanced curriculum that integrates theoretical foundations with practical experience, live projects, and exposure to key domains like Artificial Intelligence, Machine Learning, and Cybersecurity.
- Industry Collaboration and Innovation:
- Partnering with top tech companies and research institutions to offer real-world learning, while encouraging faculty and students to engage in research, publications, and cutting-edge developments.
- Mentorship and Holistic Development:
- Supporting students through a structured Mentor-Mentee system, fostering academic excellence, career readiness, and active participation in co-curricular and extracurricular activities.
- Infrastructure and Faculty Growth:
- Providing access to advanced labs and learning resources while promoting continuous faculty development through FDPs, workshops, and collaborative initiatives.
- Achievements and Placements.

Dr. Swati Sharma
Prof. & Head (IT)

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EVENT ORGANISED BY IT DEPARTMENT

SMART INDIA HACKATHON

SCIT ORIENTATION - 3RD YEAR

MEERUTINSTITUTE OF ENGINEERING AND TECHNOLOGY
N.H. 58, Delhi-Roorkee Highway, Baghpat Bypass Road Crossing,
Meerut, Uttar Pradesh 250005

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TREE PLANTATION DRIVE

DISHA 2.0

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DEV GATHERING 2K24

FAREWELL 2K24

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WEB3 WORKSHOP

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STUDENT ACHIEVEMENTS

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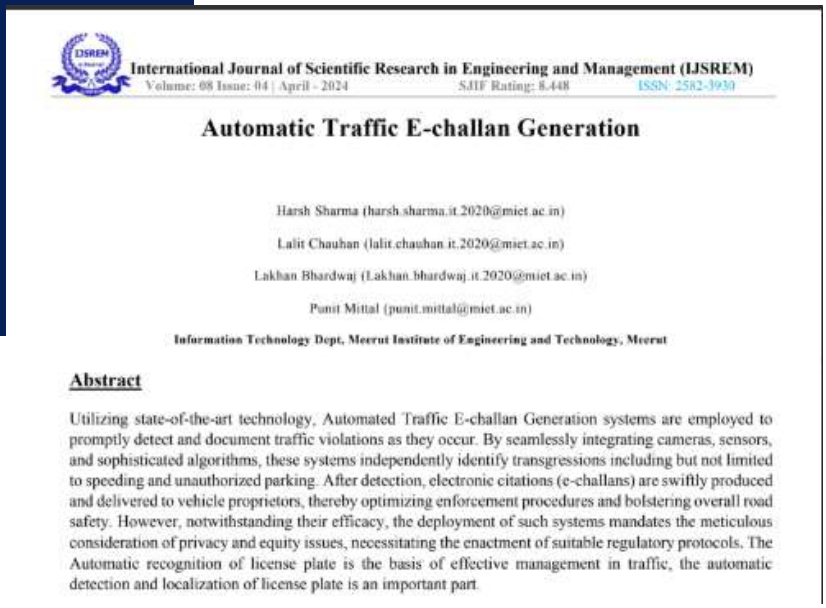
PUBLISHED RESEARCH PAPER



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Automatic Traffic E-challan Generation

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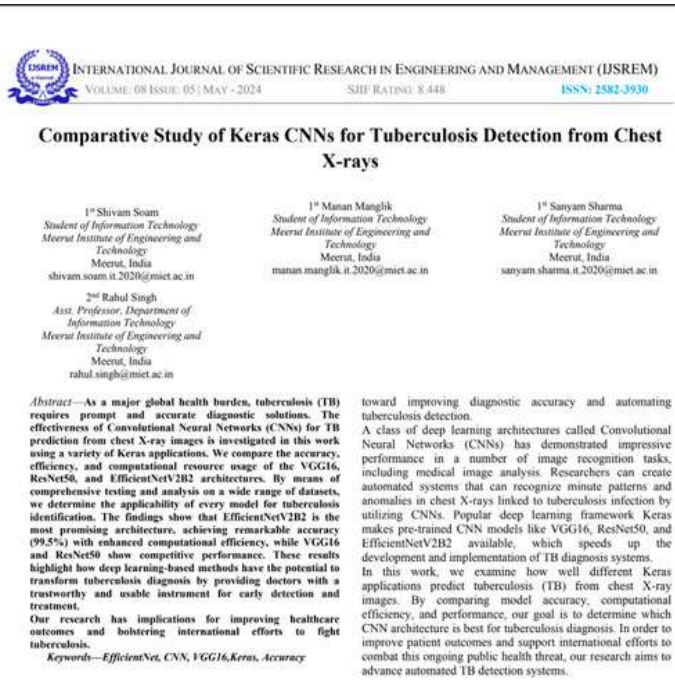
Abstract

Utilizing state-of-the-art technology, Automated Traffic E-challan Generation systems are employed to promptly detect and document traffic violations as they occur. By seamlessly integrating cameras, sensors, and sophisticated algorithms, these systems independently identify transgressions including but not limited to speeding and unauthorized parking. After detection, electronic citations (e-challans) are swiftly produced and delivered to vehicle proprietors, thereby optimizing enforcement procedures and bolstering overall road safety. However, notwithstanding their efficacy, the deployment of such systems mandates the meticulous consideration of privacy and equity issues, necessitating the enactment of suitable regulatory protocols. The Automatic recognition of license plate is the basis of effective management in traffic, the automatic detection and localization of license plate is an important part.



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Comparative Study of Keras CNNs for Tuberculosis Detection from Chest X-rays

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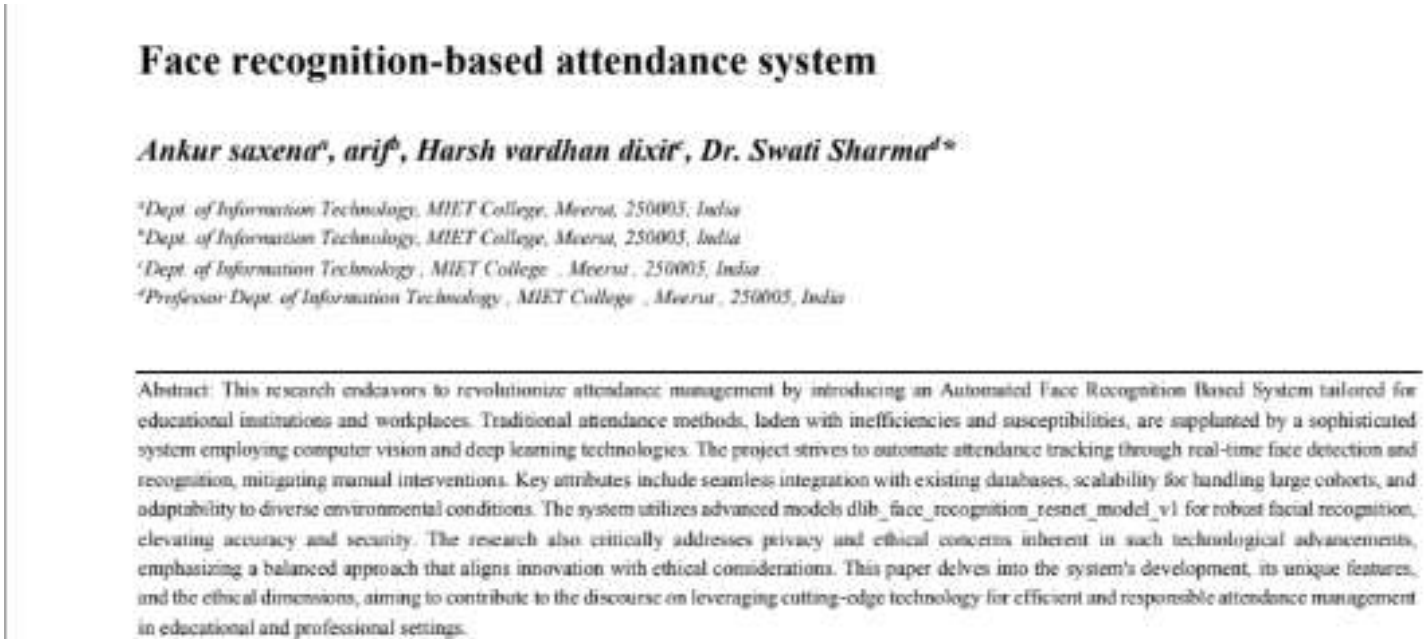
Abstract—**As a major global health burden, tuberculosis (TB) requires prompt and accurate diagnostic solutions. The effectiveness of Convolutional Neural Networks (CNNs) for TB prediction from chest X-ray images is investigated in this work using a variety of Keras applications. We compare the accuracy, efficiency, and computational resource usage of the VGG16, ResNet50, and EfficientNetV2B2 architectures. By means of comprehensive testing and analysis on a wide range of datasets, we determine the applicability of every model for tuberculosis identification. The findings show that EfficientNetV2B2 is the most promising architecture, achieving remarkable accuracy (99.5%) with enhanced computational efficiency, while VGG16 and ResNet50 show competitive performance. These results highlight how deep learning-based methods have the potential to transform tuberculosis diagnosis by providing doctors with a trustworthy and usable instrument for early detection and treatment.**

Our research has implications for improving healthcare outcomes and bolstering international efforts to fight tuberculosis.

Keywords—EfficientNet, CNN, VGG16,Keras, Accuracy

toward improving diagnostic accuracy and automating tuberculosis detection.

A class of deep learning architectures called Convolutional Neural Networks (CNNs) has demonstrated impressive performance in a number of image recognition tasks, including medical image analysis. Researchers can create automated systems that can recognize minute patterns and anomalies in chest X-rays linked to tuberculosis infection by utilizing CNNs. Popular deep learning framework Keras makes pre-trained CNN models like VGG16, ResNet50, and EfficientNetV2B2 available, which speeds up the development and implementation of TB diagnosis systems. In this work, we examine how well different Keras applications predict tuberculosis (TB) from chest X-ray images. By comparing model accuracy, computational efficiency, and performance, our goal is to determine which CNN architecture is best for tuberculosis diagnosis. In order to improve patient outcomes and support international efforts to combat this ongoing public health threat, our research aims to advance automated TB detection systems.



Face recognition-based attendance system

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Abstract: This research endeavors to revolutionize attendance management by introducing an Automated Face Recognition Based System tailored for educational institutions and workplaces. Traditional attendance methods, laden with inefficiencies and susceptibilities, are supplanted by a sophisticated system employing computer vision and deep learning technologies. The project strives to automate attendance tracking through real-time face detection and recognition, mitigating manual interventions. Key attributes include seamless integration with existing databases, scalability for handling large cohorts, and adaptability to diverse environmental conditions. The system utilizes advanced models dlib_face_recognition_resnet_model_v1 for robust facial recognition, elevating accuracy and security. The research also critically addresses privacy and ethical concerns inherent in such technological advancements, emphasizing a balanced approach that aligns innovation with ethical considerations. This paper delves into the system's development, its unique features, and the ethical dimensions, aiming to contribute to the discourse on leveraging cutting-edge technology for efficient and responsible attendance management in educational and professional settings.

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WE HOPE THIS EDITION HAS SPARKED CURIOSITY, INSPIRED IDEAS, AND KEPT YOU CONNECTED WITH THE VIBRANT LIFE OF OUR IT DEPARTMENT.

WHETHER YOU'RE A STUDENT, FACULTY MEMBER, OR TECH ENTHUSIAST — YOUR PASSION AND PARTICIPATION SHAPE THE FUTURE OF THIS DEPARTMENT. LET'S CONTINUE TO INNOVATE, EXPLORE, AND GROW TOGETHER.

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