



# D H A N E K U L A

INSTITUTE OF ENGINEERING & TECHNOLOGY  
(AUTONOMOUS)

GANGURU :: VIJAYAWADA – 521 139.

(Approved by AICTE New Delhi, Permanently Affiliated to JNTU Kakinada)  
ISO 9001:2015 Certified Institution, Accredited by NBA for ME, EEE, ECE & CSE.

# INFORMATION

# TECHNOLOGY

TECH  
VIVIDS

NEWS LETTER

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# CHAIRMAN MESSAGE

In recent years, there has been significant global focus on the profound impact of science and technology on our modern lifestyles. The twentieth century is rightly recognized as the age of science and technology. The progress of any nation today largely hinges on advancements in these fields.

In this context, engineering education plays a crucial role that cannot be overlooked. At Dhanekula, we are dedicated to providing top-notch infrastructure and faculty to foster excellence in engineering education.

I believe that technology truly succeeds when it is integrated into society, enhancing the economy and improving the per capita income of its citizens. Our ultimate goal is to bring world-class technology to our students, promoting their overall development and shaping them into skilled, qualified, and socially responsible engineering professionals.



# PRINCIPAL'S MESSAGE



Dear Parents and Students,

It is with great pleasure that I welcome you to our College (DIET) Newsletter. As Principal I am hugely impressed by the commitment of the college and the staff in providing an excellent all-round education for our students with our state of the art facilities. We, as a team working together, strongly promote the zeal towards academic achievement among our students. The cultural, sporting, and other successes of all our students and staff are also proudly celebrated together.

I congratulate the staff and students who brought the latest technologies and concepts onto the day-to-day teaching-learning platform. As long as our ideas are expressed and thoughts kindled we can be sure of learning, as everything begins with an idea.

I appreciate every student who shared the joy of participation in co-curricular and extracurricular activities along with their commitment to the curriculum. That little extra we do is the icing on the cake. 'Do more than belong-participate. Do more than care -help. Do more than believing -practice. Do more than be fair - be kind. Do more than forgive forget. Do more than dream-work.'

With a long and rewarding history of achievement in education behind us, our DIET community continues to move forward together with confidence, pride, and enthusiasm. I hope you enjoy your visit to the website and should you wish to contact us, please find details at the [www.dict.ac.in](http://www.dict.ac.in)

Yours in Education

**Dr.Ravi Kadiyala,**

Principal



# HoD's MESSAGE



**Dear Students, Faculty, and Readers,**

It gives me immense pleasure to present this issue of our department magazine, showcasing the remarkable progress, achievements, and events that have defined our journey over the past few months. At our core, we remain committed to empowering our students with the skills, insights, and tools they need to excel in an ever-evolving industry.

Over the months of July, August, and September, the department has actively engaged in a variety of initiatives to elevate both academic and professional competencies among our students. The “IT Industry Summit on Talent Skilling & Hiring” stands as one of our flagship events, providing invaluable insights into the current talent expectations of leading IT firms. Such interactions bridge the gap between academic learning and industry demands, preparing our students to seamlessly transition into the professional world.

We also organized an “Awareness Program on TOEFL and GRE”, enabling students aspiring for overseas education to understand the necessary requirements and begin their preparations. Additionally, a dedicated session on “How to Register and Attend TCS CodeVita” provided our students with the knowledge and steps to participate effectively in this esteemed coding competition, opening doors to high-profile tech opportunities.

I am delighted to highlight the academic excellence within our department as we celebrate the achievements of our semester toppers, whose hard work and dedication have set a standard of excellence for all. In this issue, we also have contributions from our students, whose articles reflect the depth of their curiosity, understanding, and creativity.

My heartfelt appreciation goes out to our faculty, staff, and students who continually strive to build a supportive and vibrant learning environment. May we all continue to push the boundaries of knowledge, innovate, and contribute to a future full of possibilities.

Warm regards,

**Dr. K. Sandeep**

Head of the Department

Department of Information Technology



# Department Vision, Mission, PEOs & PSOs

## Department of Information Technology

### IT Department vision statement

To become a leading center in Information Technology education and research, fostering innovation, technical expertise, and responsibility

### IT Department Mission statement

- Provide learner centric education with state-of-the-art facilities.
- Impart problem-solving skills to become pioneers in the global competition through trainings and various activities.
- Equip learners with employability and entrepreneurial skills.
- Promote Research environment and inculcate corporate social responsibility.

### B.Tech(IT) Program Educational Objectives (PEOs)

B.Tech(IT) graduates of DIET are able to

- PEO1: Solve multidisciplinary problems and innovate through core IT knowledge, excelling in professional careers or higher studies.
- PEO2: Integrate IT across domains, demonstrate ethical professionalism, and embody environmental consciousness as competent, well-rounded individuals.
- PEO3: Engage in continuous learning, adapting to evolving technologies while promoting societal betterment through responsible innovation and research.

### B.Tech(IT) Program Specific Outcomes (PSOs)

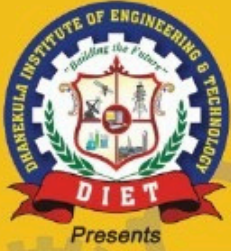
At the end of the B.Tech(IT) program, DIET students are able to

PSO1: Design and develop the Information Technology based AI systems and software applications with technical and professional skills.

PSO2: Excel in higher studies, secure employment in diverse technology sectors, contribute to research, and entrepreneurship.



# Department Activities Corner



## IT INDUSTRY SUMMIT ON TALENT SKILLING AND HIRING

In association with



Date: 31<sup>st</sup> Aug, 2024. Time: 10am to 4pm

### Participating companies



**Prof. K. Rama Mohana Rao**  
Vice Chairman - APSCHE



**Mr. Dhaval Doshi**  
Assistant Vice President  
JP Morgan Chase & Co.



**Ms. Priya Pandit**  
Associate Director, Novarits



**Mr. Lakshmi Reddy P**  
Sr. Manager - Software Engineering  
Salesforce



**Mr. Bharath Kumar**  
HR Head, Finzly India



**Mr. Surendra Boopathi**  
Lead Software Engineer, Finzly India



**Mr. B. Mallesu Badigant**  
Henotic Technology



**Mr. Bharath Tumulri**  
Lead Talent Partner - Prolifics

## How to Register and attend for TCS code vita and TCS NQT 2025 Campus Drive awareness session



GPS Map Camera

Gangur, Andhra Pradesh, India  
FP9Q+GC4, Gangur, Andhra Pradesh 521139, India  
Lat 16.46873°  
Long 80.738278°  
17/09/24 10:53 AM GMT +05:30

Google



# GRE TOEFL AWARENESS PROGRAM



## Technical events



Internal hackathon (3rd prize)

Participated District Youth Festival



# Student Articles

## CrossEase: An Autonomous Road-Crossing Assistant for Safe Mobility through Obstacle Identification and Avoidance

### Abstract

CrossEase is an autonomous road-crossing assistant developed to help vulnerable populations like the elderly, children, and those with physical disabilities safely navigate urban traffic. Equipped with real-time traffic and obstacle detection, this device enhances independence and accessibility by allowing users to cross roads safely with minimal effort.

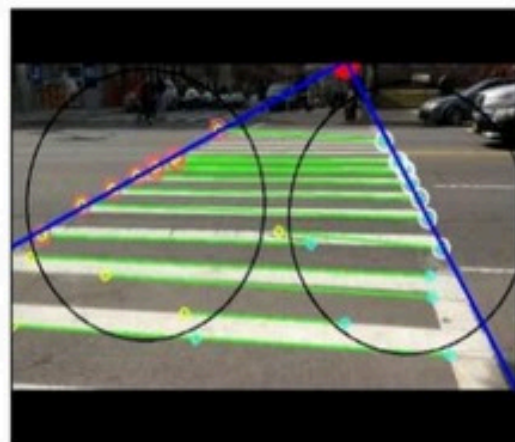
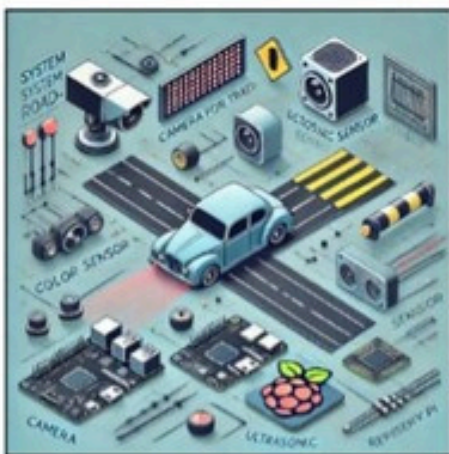


### Introduction

In growing urban areas, safe and accessible transport options are essential for everyone, especially those facing mobility challenges. Traditional crossing methods can be risky for the elderly and disabled, who may struggle with fast-paced traffic and complicated intersections. CrossEase addresses this need with a user-centered design that combines advanced technology for a seamless, safe crossing experience.

### Project Overview

CrossEase is a simple yet intelligent device that uses dual cameras and sensors to monitor traffic and detect obstacles in real time. Users only need to step onto the device, which autonomously navigates them across the road, focusing on safety and ease. This approach allows individuals to cross streets safely and independently, reducing anxiety and improving accessibility.



### Key Features

1. **Traffic Signal Detection:** CrossEase uses cameras to detect red and green traffic lights, stopping

and moving accordingly to ensure safe crossings.

2. **Obstacle Avoidance:** Ultrasonic sensors scan for obstacles, enabling the device to either stop or move around hazards.

3. **Audio Feedback:** An audio system provides users with real-time crossing status, which is especially useful for those with visual impairments or cognitive challenges.

### Technical Implementation

CrossEase's core is a Raspberry Pi, which manages its sensors and cameras to detect traffic signals and obstacles in real time.

- Dual Cameras handle traffic light recognition and environmental monitoring.
- Ultrasonic Sensors continuously scan for obstacles, ensuring safe navigation.
- Audio Output provides clear feedback, guiding users through crossings.

### Future Scope

The potential for CrossEase includes adding features like helmet detection, integration with smart city traffic systems, enhanced environmental awareness for detecting nearby vehicles, and a mobile app for added user convenience and updates on traffic conditions.

### Conclusion

CrossEase is a transformative road-crossing solution that prioritizes safety and independence for individuals with mobility challenges. By combining real-time detection, autonomous control, and easy user interaction, CrossEase provides a valuable assistive tool that empowers users to move through urban spaces safely. This device promotes inclusivity in cities, ensuring all residents can navigate traffic safely and confidently.



Article by

**K. Purna Chandra Rao**



# IoT-Based Wireless Controlled Smart Transportation System

## Abstract

This paper introduces an IoT-based, wireless-controlled transportation system aimed at improving road safety, efficiency, and real-time traffic monitoring. By integrating IoT sensors, wireless data transmission, and automated control, the system enhances smart city infrastructure by enabling live traffic updates and smoother, safer transportation.

## Introduction

Growing cities and rising traffic volumes strain traditional traffic management systems, impacting safety and efficiency. This IoT-based transportation solution uses wireless, data-driven controls to improve traffic flow, prevent accidents, and support safer road navigation. Built for urban areas, it integrates seamlessly into smart city setups, promoting sustainable, efficient transport management.

## Project Overview

This system includes IoT sensors, cameras, and processing units to detect traffic flow, road conditions, and incidents in real time. Data is wirelessly transmitted to a control center for automated traffic light adjustments, alerts, and improved traffic management decisions.

- **IoT Sensors:** Monitor traffic, accidents, and weather.
- **Wireless Communication:** Enables smooth data flow to control centers.
- **Automated Traffic Control:** Adjusts traffic lights and flow based on real-time data

## Key Features

### 1. Real-Time Traffic Monitoring

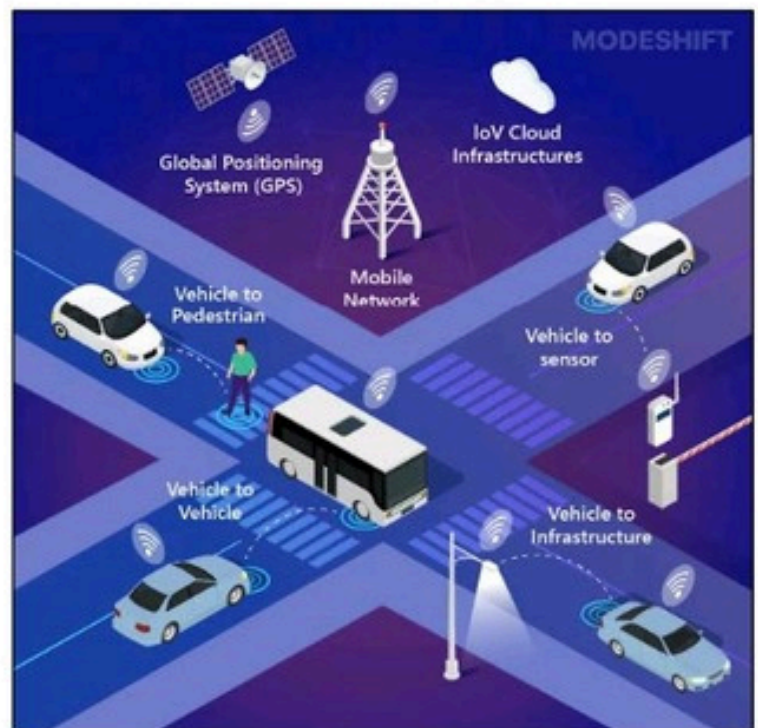
IoT sensors provide real-time data on vehicle speed, traffic density, and potential incidents. The system automatically updates traffic conditions and adjusts lights to prevent bottlenecks.

### 2. Remote Traffic Signal Control

Traffic signals adjust dynamically in response to live data, reducing waiting times at intersections and minimizing traffic jams. Wireless control allows for instant changes based on the detected traffic situation.

### 3. Accident and Hazard Alerts

The system detects sudden traffic slowdowns and sends alerts for accidents or roadblocks. This helps emergency response teams arrive faster and reduces the risk of secondary accidents.



## Technical Implementation

The core of the system is built around IoT devices controlled by a central server:

- **Sensors:** Measure traffic flow, detect accidents, and monitor weather conditions.
- **Wireless Network:** Transmits data to a control center using secure communication protocols.
- **Control Center:** Processes data and dynamically adjusts traffic signals and alerts.



## Future Scope

The system has a promising future with potential advancements:

1. **Enhanced AI Algorithms:** Using machine learning to predict traffic patterns and optimize traffic light timing further.
2. **Integration with Autonomous Vehicles:** Real-time data can be shared with autonomous vehicles, enabling smoother navigation.
3. **Expanded Environmental Monitoring:** Adding sensors for air quality and noise pollution to enhance overall city health monitoring.

## Conclusion

This IoT-based wireless-controlled transportation system represents a significant step forward in traffic management technology. By combining real-time data collection, wireless control, and automated responses, it improves urban transportation safety, efficiency, and sustainability.



**Article by**

**V. Girisha**



# Academic Achievements

## R20 batch toppers



**N. sujitha**  
208T1A1241  
SGPA : 8.28



**P. Vasu Pranusha**  
208T1A1250  
SGPA : 8.25

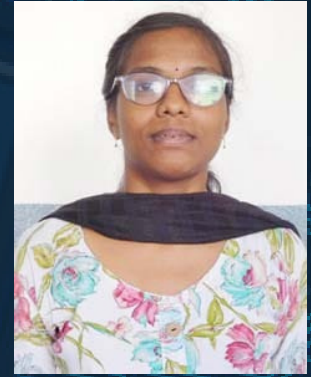
## 2023- 24 II Semester Toppers 3rd Year Toppers



**K. Purna Chandra Rao**  
218T1A1231  
SGPA : 8.6



**SK. Shaheed**  
218T1A1249  
SGPA : 8.6



**U. Meenakshi**  
228T5A1213  
SGPA : 8.6

## 2nd Year Toppers



**P.PURNA CHANDRIKA**  
228T1A1285  
SGPA : 9.02



**GULLIPALLI SAI SARANYA**  
228T1A1244  
SGPA : 8.88



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