NARASARAOPETA ENGINEERING COLLEGE (AUTONOMOUS)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

2024-2025

Batch Number	**CB-2**
Team Members	Thotakura Bhuvanesh (21471A05K4) Kuchi Vinay (21471A05H4) Dondapati Tharun Kumar (21471A05E8)
Guide	Dr.S.N.Tirumala Rao M.Tech,ph.D
Title	HelmSecure: AI Helmet Enforcement
Domain/Technology	DEEP LEARNING
Base Paper Link	https://ieeexplore.ieee.org/document/10440621
Dataset Link	https://drive.google.com/drive/folders/1d8IsHj-kNk88WQz7HrK9sY_z0y1bwbUI?usp=sharing
Software Requirements	Browser : Any Latest browser like Chrome Operating System : Windows 11 Language : Python Platform : Visual Studio Code
Hardware Requirements	Processor/SystemType: Intel Core i5 or above RAM: 8 GB System Type : 64-bit operating system, x64-based processor
Abstract	Ensuring the use of safety helmets is essential for reducing the risk of head injuries in both workplaces and on the road. However, workers and motorcycle riders often neglect wearing helmets due to discomfort or lack of awareness, leading to increased safety risks. To address this, a dual-purpose detection model has been developed to automatically detect helmet usage in construction sites and monitor motorcycle riders on the road. The system not only checks if workers are wearing helmets but also tracks motorcycle riders, capturing license plate information when helmets are worn. By utilizing advanced object detection techn -iques, this approach offers a fast, automated solution to enforce helmet compliance. The detected data, including images, license plate number and timestamps, is organized in an Excel sheet for documentation, enab -ling comprehensive safety monitoring. This method eliminates the need for manual oversight and promotes safer environments by facilita -ting real time tracking and easy deployment. Additionally, a userfriend -ly interface ensures accessible use in various environments.

Signature of the student(s) **Signature of the Guide** **Signature of the project coordinator**