

**Gokaraju Rangaraju Institute of Engineering and Technology**

**(Autonomous)**

**Department of Computer Science and Engineering**

**GR22A3089 – MINI PROJECT with SEMINAR**

**III Year B.Tech. II Semester**

**Academic Year 2024-2025**

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| **Domain** | CV/AI/ML |
| **Title** | GuidedEye: Enhanced Mobility through Object Detection and Navigation Assistance |
| **Batch no.** | C4 |
| **Guide Name and Designation** | V. Ramya Manaswi, Assistant Professor |
| **Student Names with Reg.Nos** | 1. K. Tejaswini Reddy - 22241A05F9  2. Y. Harshitha - 22241A05K5  3. C. Charanya - 23245A0515  4. J. Pragnya - 23245A0517 |
| **Photographs** |  |
| **ABSTRACT** | |
| Blind and visually impaired individuals face challenges in mobility due to limited real-time spatial awareness. This project aims to develop an AI-powered application that detects objects, estimates distances, and provides auditory navigation guidance to enhance independent movement. The system utilizes YOLO for real-time object detection, MiDaS for distance estimation, Reinforcement Learning for decision-making, and audio navigation instructions using pyttsx3. The mobile device captures live video, processes it using deep learning models, and provides real-time voice feedback. MiDaS estimates depth from a single camera feed to determine object distances, while RL optimizes navigation decisions. The processed information is converted into speech via pyttsx3, enabling users to receive accessible and immediate guidance. This system serves as an affordable, real-time assistive tool, empowering visually impaired individuals to navigate safely and independently in various environments. | |

**Signature of the Guide**