

**Abstract:**

This project presents an innovative assistive technology system tailored to empower visually impaired individuals by enhancing their independence and mobility. Leveraging state-of-the-art computer vision techniques, notably OpenCV and YOLOv5, the system enables real-time object detection and precise distance prediction using the device's camera. Through auditory feedback, users gain invaluable assistance in navigating their surroundings with confidence, significantly improving their mobility. Additionally, the project integrates feature-rich visual recording capabilities to augment the user experience, allowing for comprehensive post-navigation analysis and system refinement. Rigorous testing and evaluation validate the system's effectiveness in enhancing mobility and independence among visually impaired individuals, underscoring its potential to revolutionize their quality of life. By providing seamless interaction and robust functionality, this assistive technology system represents a significant step towards fostering greater autonomy and inclusion for visually impaired individuals in society.