Quad Chart for Human Obstacle Detection and Tracking (Group 14)

Objective Approach Implement YOLO v5 for human detection Develop a robust human obstacle detection and tracking module Develop tracking algorithm using Kalman filter Integrate YOLO (You Only Look Once) algorithm for real-time processing Optimize for real-time performance on embedded systems Enhance robot navigation and safety in human-populated Integrate with ROS2 for seamless robotics integration environments Schedule & Metrics **Benefits** Month 1-2: YOLO implementation and training Improved robot safety and collision avoidance Month 3: Tracking algorithm development Enhanced human-robot interaction capabilities Month 4: ROS2 integration and optimization Real-time performance for dynamic environments Month 5: Testing and validation Scalable solution for various robotics applications Metrics: 95% detection accuracy, 30 FPS on target hardware