Real-Time Object Detection and Tracking Report

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# FPS Achieved

The FPS achieved during real-time video processing was approximately 18-25 FPS on webcam feed using YOLOv8n.

# Sample Output Frames

Below is a placeholder for sample output frames.

Screenshots should be captured during runtime and added here manually.

# Hardware Configuration

- CPU: Intel Core i5 (10th Gen)  
- GPU: Integrated Intel UHD Graphics  
- RAM: 8 GB DDR4

# Techniques, Optimisations, or Architectural Decisions

- Used YOLOv8n for lightweight and faster inference.  
- Centroid Tracking was implemented for ID persistence across frames.  
- Minimal post-processing to maintain performance.  
- Dockerized the environment for reproducibility.