Product

Multipurpose Perception Module for Acme
Detects and tracks multiple humans ($N \geq 1$) in real-time using a monocular camera for robotic platforms.

Stakeholders

Acme Chief Technology Officer
Acme's robotic platform teams
End-users in industrial inspection, healthcare, and collaborative assistance sectors

Capabilities

• Real-time human detection using YOLOv4
• Smooth trajectory estimation with Kalman filters
• Coordinate transformation to robot's reference frame
• Seamless integration with existing navigation and control modules

Measures of Success

• Detection accuracy and speed
• Tracking stability in dynamic environments
• Real-time performance (low latency)
• Successful integration with existing systems
• >90% code coverage in testing