

Real-Time Video Surveillance System with Human Detection, Tracking, and Activity Recognition using Raspberry Pi

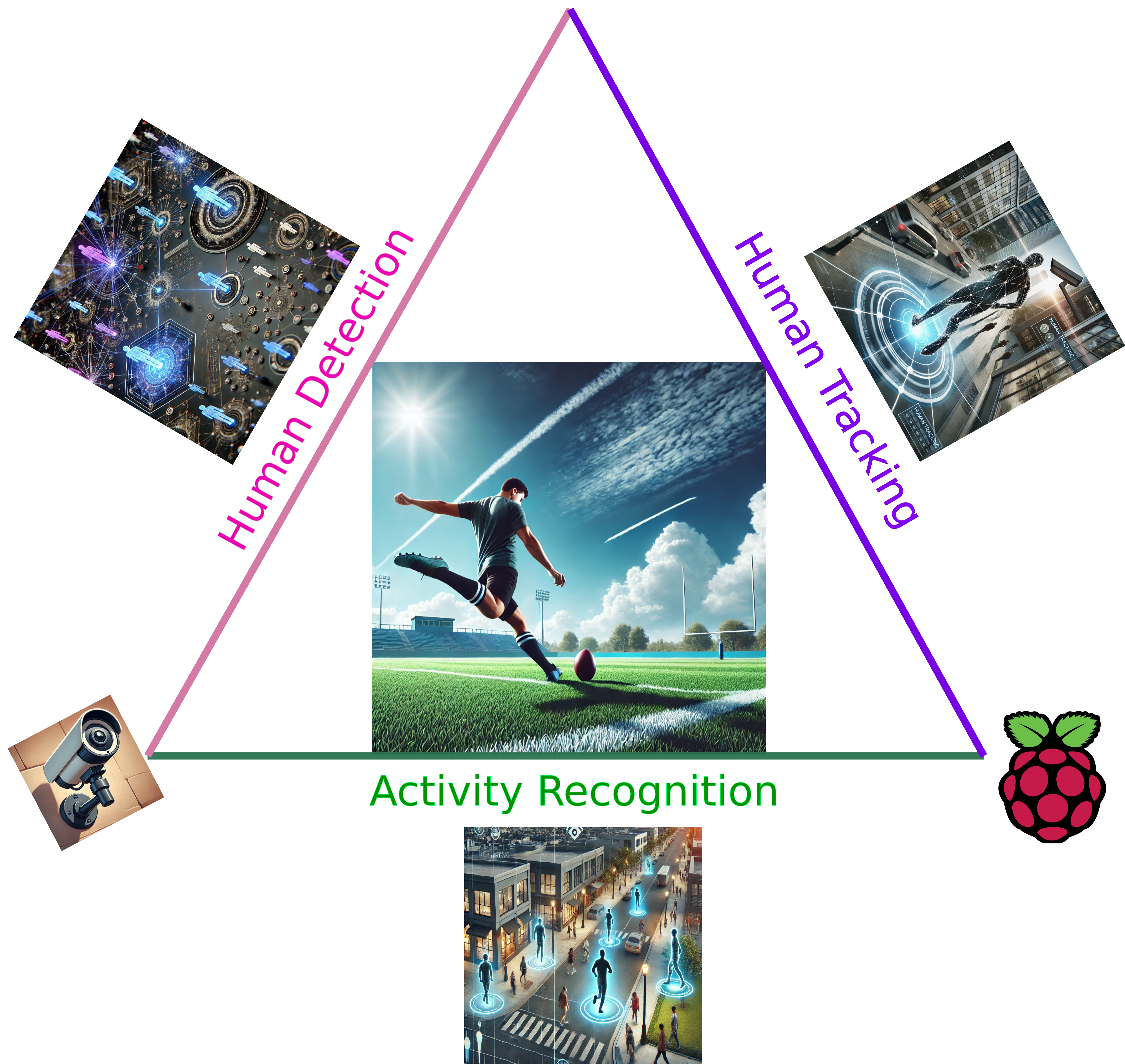
Priyam Chakraborty¹, Wajoud Noorani²

¹Department of Mechanical Engineering, Indian Institute of Science

²Change Jar

"There is no time to leave important words unsaid." – Paulo Coelho

We work towards state-of-the-art cyber-physical systems.



System Design:

Hardware:

Raspberry Pi 4 Model B

Camera Module with RTSP Streaming Capabilities

MicroSD Card for Operating System and Application Storage

Software:

Raspberry Pi OS

Python with Requisite Libraries

Custom-Trained Model for Human Detection

Customized Object Tracking Algorithm

Custom-Trained Model for Activity Recognition

Benefits:

Real-Time Processing

Reduced Workload

Improved Accuracy

Enhanced Awareness

Low-Cost Solution