Human Detector and Tracker

Objective/Overview	Approach
- Human detection and tracking are significant tasks in many applications, whether autonomous driving or VR games. - Using deep learning, thousands of images can be analyzed and a model can be created to track humans.	- We will be using either YOLOv$ architecture or Haar Features on each frame (image) of the video. - YOLOv$ divides each image into multiple small regions that make predictions of bounding boxes. - Once we have the coordinates of the bounding box in the image, we convert them into the world frame and return those values.
Specific Approach	**Key Milestones/Measures of success (add date)**
- We will have 2 modes of detection, either the user can input an image or a video. In the case of a video, it will be read frame by frame to ease the processing. - We will be implementing the detection pipeline in a 2D coordinate system and then use a camera projection matrix or camera focal length to get the coordinates in the camera frame. - Since the camera matrix is unavailable, creating that might be a challenge.	- UML diagram and activity diagram - 10/10/2022 - Structured code implemented using OOP - 10/13/2022 - Developing unit tests - 10/10/2022 - Detection of humans accurately, along with tracking in a video - 10/20/2022 - Documentation that follows proper structure and guidelines 10/22/2022