Today, Smart Eye’s Automotive Solutions are embedded in next-generation vehicles, leading the way towards safer and human-centric mobility. We offer road-ready Driver Monitoring Systems and advanced Cabin Monitoring solutions.

A crucial component of our Cabin Monitoring System is the human body pose estimation, which is used to draw conclusions about the seating position and secondary activities a driver can be engaged in. Our current system operates on static images and estimates 2D keypoint positions on the face, shoulders, elbows, wrists, hips, and knees. However, the model is computationally demanding and suffers from suboptimal performance and keypoint flicking.

To improve on the accuracy and speed of the keypoint detector, the goal of this master thesis is to investigate models that operate on video data instead of static images. The expectation is that such models can improve on performance since they do not have to find keypoints on a global level in each frame but rather can refrain to some sort of tracking, thus also ensuring temporal consistency of the body pose keypoints between frames.

Requirements:
Python
Deep Learning

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