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 driver drowsiness estimation is detection of drowsiness related events - such as blinks, long eye closures and yawns - which are then used to estimate driver drowsiness state. Our current approach in detecting these events is traditional signal processing and thresholding, followed by a calculation of hand-crafted measures, however performance of such approach is limited and not sufficient.

The goal of master thesis is to improve performance of drowsiness event detectors by employing memory and/or attention based neural networks (LSTM, transformers and similar) to detect events and estimate event measures (duration, amplitude, etc). The expectation is that memory-based networks can lead to a better detection performance and at the same time provide better estimation of event measures also enabling usage of deep features for driver drowsiness estimation.

**Requirements:**

Python
Deep Learning

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