

## Smart Steering Wheel, Driver State and Open Source Science

The in-car environment is becoming more complex. Smart systems are capable of providing the driver with more information, advices, as well as support when necessary. Timing these communications to the driver is crucial: distraction at the wrong time may lead to misinterpretation of the information, hazardous situations or accidents.

Within a research project at TU Delft I am currently working on a smart steering wheel. The goal is to predict the driver's mental state, based on non-intrusive sensors integrated into the driving environment. By knowing more about the driver's psychophysiological profile at any given time, it becomes possible for in-car systems to find optimal moments of interaction with the driver. This ensures the interaction does not compromise driving performance or safety.

In this talk, I will discuss how we are working to achieve this goal, the open source (psychophysiological) data collection platform we are developing, the methodologies we use and the results so far.