



## Novel In-Vehicle Interaction Modalities and Locations

### Open Bachelor/Master Thesis

#### Background

Automated vehicles enable many opportunities for novel in-vehicle interaction approaches other than visual, auditory, and tactile. However, it is unclear whether experimental modalities (e.g., electrodermal, brain, or heart) are feasible. Passengers might perceive them as invasive (e.g., brain) or unpleasant (e.g., thermal) and, therefore, reject usage. Besides, how users perceive interaction at unfamiliar locations is unknown, e.g., rear, floor, or ceiling. A basic comparison of modalities and locations concepts using virtual reality in a large-scale user study may shape future research and in-vehicle interaction design concepts.

#### Research Goal

The aim of this thesis is to compare concepts for modalities and interaction locations to gain a basic understanding of their user acceptance. Several virtual reality prototypes should be designed and implemented. Finally, the defined hypothesis should be evaluated by conducting a (video-based online) study.

Based on bachelor/master level  
the scope is adapted.

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