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Areas of research/expertise

Auditory Displays

- Sound Design
- Sonification

Automotive User Interfaces

- Intelligent Transportation Systems
- Connected/Automated Vehicles

Affective Computing

- Estimate users' emotional states
- Intervene with technologies

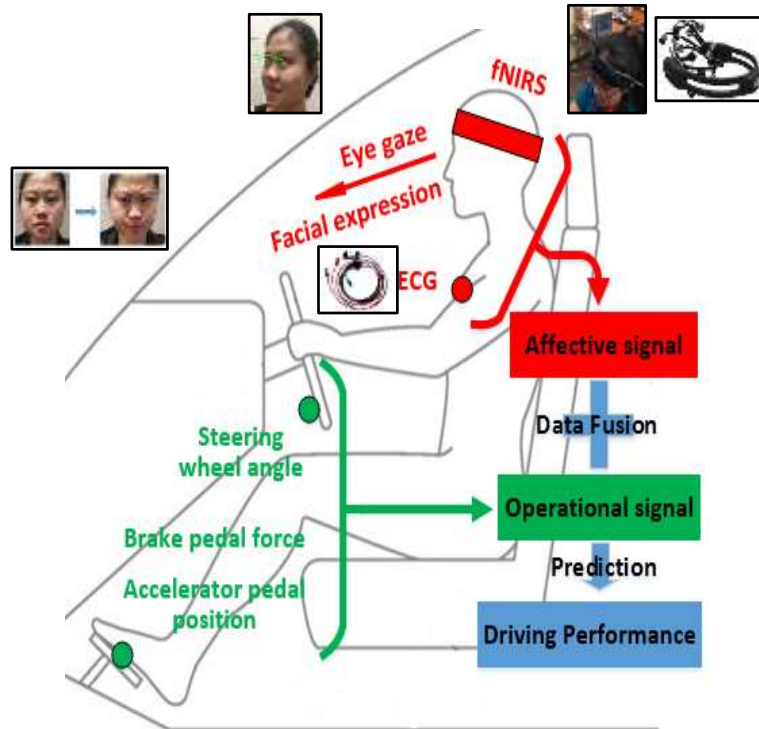
Assistive Technologies

- Blind People
- Kids w/ASD
- Older Adults

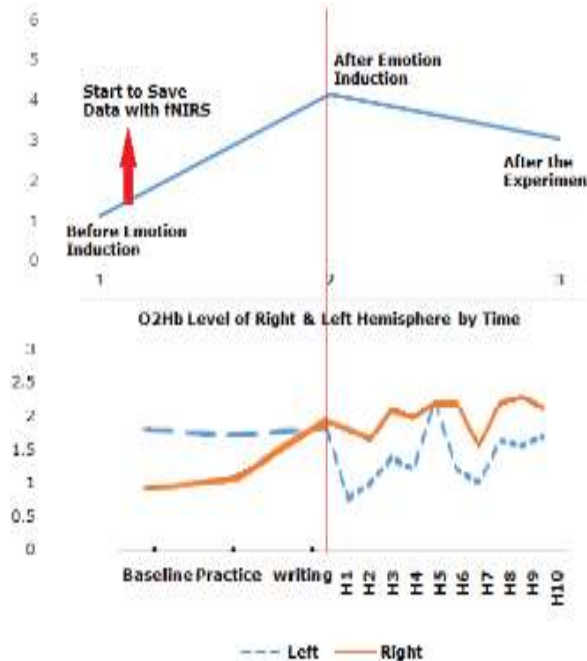
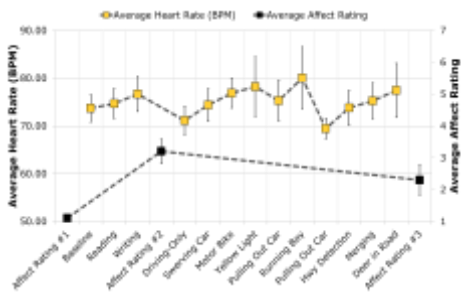
Multimodal Interactions in Connected and Automated Vehicles

Fully Equipped Simulated Driving Research

- Manual / automated driving modes (standardized, scenario-writable)
- Behavioral, neural, & physiological sensing of drivers' states (ABC of Psych)
- Empirical experiments about the effects of emotions and affect on driving

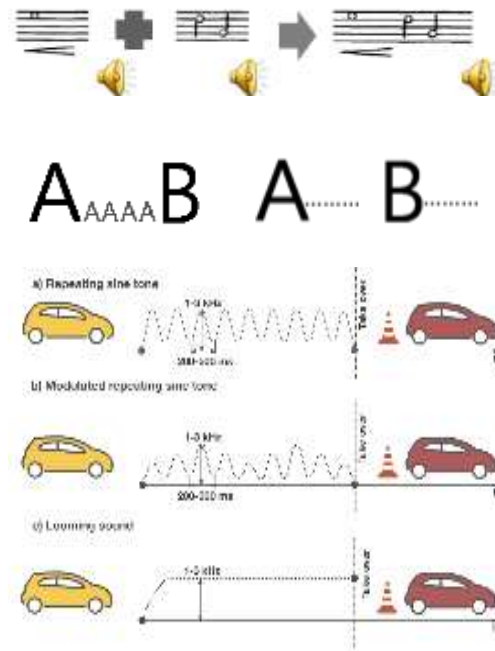


The Mind Music Machine Lab crosses computer science and cognitive science to better understand how to help people drive better.



In-vehicle Multimodal Interactions

- Discrete auditory displays (e.g., warnings, speech, alerts for take-over)
- Real-time sonification (“Listen2YourDrive”, target matching sonification)
- Gesture interaction (elicitation, sonically-enhanced menu navigation)



Connected Automated Driving Research

- Collaborative driving at cognitive levels by combining multiple simulators
- For people with difficulties/disabilities, older adults, etc. (e.g., platooning)
- Interactions with pedestrians (NHTSA G/L)

