# Sohan Shah

# Distracted Driving: Effects on Driver Safety, Performance, and Biometrics

# My project tested how distractions affected driver safety, performance, and biometrics. The hypothesis tested was that drivers who are distracted by multitasking have more car accidents and lane swerves, drive faster, have lower concentration and memory, and have higher pulse and blood pressure.

# After consent, subjects of different ages who had driver’s licenses were placed in a quiet room and trained to drive on a car simulator. Next, they completed a 1.2 mile course (city and highway) during clear conditions with no distractions. Data was recorded. Then they drove the same course with different degrees of distractions (minor, moderate, and major), and data was recorded. Fifty percent of the subjects also drove the course under adverse conditions (i.e. snow, nighttime) and data was again recorded.

# Results showed that higher levels of distractions caused the subjects to have more lane swerves and accidents and caused them to drive slower than driving without distractions. Cognitive distractions (i.e. texting while driving) caused the most accidents and pedestrian injuries resulting in expensive car repair costs and multiple traffic violations. With distractions, drivers were aggravated and acted out. The worse distractions caused driver pulse to increase, and they also lead to poorer concentration and memory.

# My experiment largely supported my hypothesis. For drivers for multiple age groups and levels of experience, distractions while driving overwhelming caused a negative effect on driver safety, performance, and biometrics, with only minor exceptions.