Type of Research Position:
• Graduate RA at the PhD level
• Summer REU for undergraduates

Description of Research Project:
The Human Performance Laboratory (HPL) within the Department of Mechanical and Industrial Engineering conducts research in the intersection of Human Factors and transportation safety. More specifically, we are interested in studying how new technology that is being introduced into the vehicle interacts with driver characteristics to change the driving landscape.

Examples of past projects done in the HPL include: (1) investigation and improvement of teenage driver’s hazard anticipation and mitigation, (2) development of training programs to improve older driver scanning techniques, (3) effect of social influence on engagement in distracting activities while driving, and (4) effect of automated vehicle reliability on driver trust. Future projects include: (1) development and testing of driver feedback systems for use in automated driving, (2) effect of drug impairment on driving performance, and (3) effect of driver demographics (e.g., socioeconomic status) on driving performance.

Responsibilities (The list below is not exhaustive)
■ Recruit human participants for driving experiments
■ Conduct experiments with human participants using the driving simulator or the on-road vehicle
■ Design in-vehicle interfaces (e.g., dashboard and center stack) for use in manual and automated driving contexts
■ Analyze experimental data using basic and intermediate statistics as well as data visualization techniques
■ Conduct data entry of survey and/or eye movement data
■ Prepare research articles for submission
■ Draft experimental protocols
■ Participate in public outreach efforts to promote the laboratory’s research within the community

Almost all of the research done in the HPL is in collaboration with other departments and/or other Colleges. Previous and current collaborations include: Psychology, Sociology, Civil Engineering, Electrical Engineering, Public Health, Computer Science, and Landscape Architecture & Regional Planning.

Desired Qualifications and/or Background
Enrolled in a BS program in Computer Science, Engineering, Mathematics, Psychology, Sociology, Statistical or Data Sciences, or a related field. Eagerness and enthusiasm to learn and collaborate with others. Prior research experience is desired, but not required. Prior exposure to basic or intermediate statistics is desired, but not required.