Graduate **O**pportunities
in **S**afe Transportation
and **R**esilient Systems

Adviser:
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GAANN- GOSTARS Fellowship Project

Title: Understanding Motor Vehicle Injury among Older Adults Using Linked Data

Description: According to the New Jersey Division of Highway Traffic Safety, older drivers represent the largest contingent of motorists involved in crashes. It should be noted that older adults' motor vehicle crashes need more resources such as additional diagnostic imaging and increased odds of admission. With this increasing number of older adults, motor vehicle injuries and fatalities have become a major public health issue for adults in this respective group, necessitating further research and development. The primary objectives of the proposed project are to collect and link various transportation data and to identify the risk factors, protective factors, types of injuries, and injury severity related to motor vehicle traffic crashes involving drivers aged 65 years and older.

Impact on GAANN: This project is aligned with two focus areas of GOSTARS, including passenger safety and reduction in traffic congestion. To be specific, this project is especially important as a better knowledge of types of injuries and injury severity resulting from motor vehicle crashes can enhance the potential public health impact of efforts associated with motor vehicle crash prevention. This project will also highlight the benefits of the application of linked data for decision-making and understanding motor vehicle crash injuries involving older drivers. The effective linked data models can potentially extend into more comprehensive crash risk assessment and management.

Impact on GOSTAR: With the recent trends in advanced transportation technology and transportation bill, it is expected that demand for Transportation Engineers is increased in the next few years. As part of this project, the student will participate in the field data collection and learn more about crash data analysis using advanced statistical tool such as R and SAS and data visualization using Tableau. The student will also learn the application of big data analytics and machine learning in transportation decision making, all of which help GAANN students meet the needs of job market.

Tentative Plan									
Semester	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Task	Literature review, collect relevant data			Assess various data analysis techniques, conduct data analysis			Continue on data collection and prepare final recommendation		
Outcome	Identify research gap and state of practice and art			Crash contributing factors			Final recommendation		
Deliverable	Publish in a refereed conference proceedings and journal			Publish in a refereed conference proceedings and journal			Publish in a refereed conference proceedings and journal.		
Milestones	Dissertation committee	Qualifying exam							Graduation