Postgraduate Seminar Series

Venue: Graduate Seminar Room
Date & Time: May 11, 2024 at 2:15 PM

<u>Speaker Information</u>

Md. Masum Mushfiq (Std No. 0419052053) is a part time M.Sc. student in the department of CSE, BUET. He completed his undergraduate studies from CSE, BUET in 2019. His research interest lies in the field(s) of Simulation, Computational Modelling, and Intelligent Transportation Systems. He is currently doing his postgraduate thesis under the supervision of Dr. A. B. M. Alim Al Islam. He will be speaking about his ongoing research in this talk.

<u>DEVELOPING A NOVEL PEDESTRIAN-AWARE CAR-FOLLOWING STRATEGY FOR OPERATING CONNECTED AND AUTONOMOUS VEHICLES IN DENSE CROWDS</u>

In contemporary urban landscapes, the integration of Connected and Autonomous Vehicles (CAVs) in real contexts holds paramount importance due to the potential of CAVs to transform transportation safety and efficiency. The coexistence of CAVs and pedestrians on the road in crowded environments presents intricate challenges in a real context that necessitates meticulous analysis. Such coexistence is expected in the near future for different purposes. Examples of the purposes include religious congregations such as Hajj, social crowds such as outdoor sports events, political crowds such as mass processions, etc. However, related research studies mostly ignore crowded environments with CAVs and pedestrians. This happens as the existing studies focus on only CAVs, only pedestrians, or both of them in sparse settings. Therefore, this research aims to comprehensively investigate crowded environments with both CAVs and pedestrians, and analyze the behavioral dynamics as well as safety implications in crowded environments. Particularly, this research attempts to develop a novel pedestrian-aware car-following strategy suitable for dense crowds. This study will use advanced simulation techniques to uncover how the vehicles interact with vehicular traffic and pedestrian flows, aiming to enhance on-road experiences, and ultimately contribute to a safer and more efficient mobility landscape in crowded environments.