Adam Novotny

Virginia Tech

Safety through Disruption (Safe-D)

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Bio

Adam Novotny is a third-year PhD student in the Virginia Tech—Wake Forest University Biomedical Engineering and Sciences program, working under Dr. Zachary Doerzaph in the Center for Advanced Automotive Research at the Virginia Tech Transportation Institute (VTTI). He has worked on several projects, studying human factors, injury biomechanics, connected and automated vehicle technology, and vehicle safety system development. Currently, Adam is leading a study of e-scooter safety injury reports and system design for one of the leading micromobility companies in the United States.

Degree and Graduation Date (or Anticipated Date)

PhD in Biomedical Engineering from Virginia Tech, May 2022

B.S. in Mechanical Engineering from The College of New Jersey, May 2018

Preferred Career after Graduation

Adam is seeking a career in the public sector.

Broad Research Interest Area

Transport policy

Specific Research Area

Human factors and biomechanics in advanced vehicle safety systems; automated- and connected vehicle technology development

Primary Mode(s)

Multimodal

Top Accomplishment in 2020

Adam was first author on a soon-to-be published-paper titled "Concept Development of the Novel Pre Rear-End Positioning and Risk Extenuation System (PREPARES)." In 2019, his team won the international title with this project in the Collegiate Student Safety Technology Design Competition (SSTDC) of the Enhanced Safety of Vehicles (ESV) 26th International Technical Conference.

Thesis Title and Summary

"E-Scooter Safety Improvements through Design and Training"

This project seeks insight into the nature, frequency, and severity of injuries resulting from e-scooter crashes, and, using a variety data collection methods, to identify the major factors contributing to crashes and injuries. The results will inform the design of countermeasures to be incorporated into a revised prototype e-scooter design intended to induce safer riding behavior. Prototype testing through simulation, lab, or field evaluation will be performed to assess the updated design's performance and potential safety benefits. The results will also be used to develop improved training materials and methods for inexperienced riders.