



STATE OF MICHIGAN

GOVERNOR'S TRAFFIC SAFETY ADVISORY COMMISSION

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## **Michigan Tech student's work addressing railway, road safety recognized by Governor's Traffic Safety Advisory Commission** *Tan honored for research improving highway rail-grade crossings*

Yingtong Tan, a fifth-year graduate student at Michigan Technological University, has been recognized by the Governor's Traffic Safety Advisory Commission (GTSAC) for her research on the safety challenges posed by highway rail-grade crossings.

Tan was presented with an Outstanding Student Traffic Safety Achievement Award on Wednesday at the GTSAC award ceremony as part of the Michigan Office of Highway Safety Planning's 27<sup>th</sup> annual Traffic Safety Summit in East Lansing. The GTSAC honors organizations, programs and individuals for distinguished involvement in traffic safety.

Since 2019, Tan has been studying solutions to improve grade-crossing safety using Connected and Automated Vehicle (CAV) technologies to make transportation safer for roadway and railway users. The aim is to increase awareness by deploying wireless communication, developing highway-rail connectivity and optimizing driving strategies near rail-grade crossings. According to the Federal Railroad Administration statistics, 2,199 highway-rail grade crossing crashes occurred in 2022. The problem is exacerbated by distracted driving near rail-grade crossings, which increases the risk of crashes.

Tan was the first in the United States to deploy the Rail Crossing Violation Warning (RCVW) system at rail-grade crossings. This prototype is designed to warn drivers of imminent violations of a crossing based on real-time positioning and vehicle-to-infrastructure communication. Fifteen drivers were recruited to drive a predetermined loop on surface roads with rail-grade crossings equipped with RCVW. Positive driver feedback highlighted the system's effectiveness, underlining the potential safety benefits of highway-rail connectivity facilitated by wireless communication.

The GTSAC was formed in 2002 to serve as the state's forum for identifying key traffic safety challenges and developing and implementing plans to address those issues. The commission includes representatives from the departments of State Police, Transportation, Education, State, and Health & Human Services, as well as the Office of the Governor, the Aging and Adult Services Agency, and the Michigan Office of Highway Safety Planning. There are also three representatives from local government appointed by the governor.

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