UTC Project	
Information	
Project Title	Behavioral Indicators of Drowsy Driving: Active Search Mirror Checks
University	Virginia Tech
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Funding Source(s) and Amounts Provided (by each agency or organization)	Safe-D: \$70,000 General Motors: \$284,000
Total Project Cost	\$354,000
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Start and End Dates	Start: 11/1/2020 End: 5/1/2022
Brief Description of Research Project	This work aims to mine an available dataset in order to examine driver search behavior, with the goal of identifying relationships between driver vigilance and drowsy driving. The hypothesis is that driver search behavior (e.g. mirror checks) degrades with increasing levels of drowsiness. If a reliable relationship is found between driver vigilance and state of drowsiness, the practical applications may be to incorporate this measure of driver search behavior into the "toolbox" of metrics for estimating driver drowsiness
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	Results will be reported in the scheduled quarterly and bi-annual documents, as well as detailed in the final report. Results of this effort will also be used for the development of detection algorithms for the classification of driver states. Additional data will also be used to enhance the reliability of DMS technologies. The proposed work will act as an introduction of protocol development and data analysis to a funded student, as well as to the development of a lesson module detailing DMS development and deployment. A manuscript for journal publication and presentation of the research findings at a conference are also expected as outcomes of this research effort.
Impacts/Benefits of Implementation (actual, not anticipated)	The lesson module detailing DMS technology and specifically the role of PERCLOS in monitoring driver drowsiness states will be a direct benefit to an educational audience.

Web Links	https://safed.vtti.vt.edu/projects/behavioral-indicators-of-drowsy-
Reports	driving-active-search-mirror-checks/
 Project website 	