

UTC Project Information	
Project Title	Predicting changes in driving safety performance on an individualized level under naturalistic driving conditions
University Partner	University at Buffalo
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Funding Source(s) and Amounts Provided (by each agency or organization)	
Total Project Cost	
Agency ID or Contract Number	
Start and End Dates	9/1/2017-8/31/2018
Brief Description of Research Project	<p>Transportation incidents remain a pressing public safety issue in the United States and throughout the world, despite significant advancements in vehicle safety technologies. The National Highway Traffic Safety Administration (NHTSA) estimates that about 20% of all crashes are fatigue-related, and as such has begun an initiative to reduce drowsy and distracted driving. Of particular interest are commercial truck drivers. In order to reduce the likelihood of incidents, it is important to understand the factors that affect driver safety performance in order to predict future changes in performance. The goal of this project is to examine how driver safety performance varies by location, time of day, hours on duty, and/or driver workload and to model the rate of change in performance to predict hazardous behaviors. To meet the overall goal, the following tasks will be completed: 1) model input parameters for characterizing workload: tasks performed, cognitive load, miles driver, road locations, driving characteristics; 2) quantify changes in driving performance based on mirror checks and system alerts and evaluate these changes with respect to gold standard guidelines; and 3) investigate data-driven modeling approaches for driving safety performance prediction, including structural analysis and machine learning approaches. This research makes use of data collected, through our partner Maven Machines, during naturalistic conditions for a fleet of over 200 drivers and over 9 million driving events.</p>
Describe Implementation of Research Outcomes (or why not implemented)	Project in progress

Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	Project in progress
Web Links <ul style="list-style-type: none"><li>• Reports</li><li>• Project website</li></ul>	