UTC Project Information	
Project Title	Driver Models for Both Human and Autonomous Vehicles with Different Sensing Technologies and Near-crash Activity
University	Ohio State University
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Funding Source(s) and Amounts Provided (by each agency or organization)	US DOT RITA: $400,585.75 Ohio State University Matching Funds: $196,517.65
Total Project Cost	$704,690.00
Agency ID or Contract Number	DTRT13-G-UTC47
Start and End Dates	O9/30/2013 – 09/30/2017
Brief Description of Research Project	The goal of this project is to understand how multi-agent models of the driver and vehicle can inform design principles for optimized autonomous vehicle systems. In this project we will develop and refine a computational model for human behavior in pre-crash scenarios. We will develop a multi-agent model with both human drivers and autonomous and semi-autonomous vehicles. The model will build upon successful models used in our Defense Advanced Research Projects Agency (DARPA) Grand Challenge vehicles, and will also incorporate results from our experience in automotive industry project. This model takes dynamic inputs about the changing situation and behavior of others, and uses mathematical or symbolic processing to carry out the functions required to simulate the perception, attention, cognition, and control behavior of interest. We will integrate different component models, including control theory models, decision and judgment models, learning classifier systems, joint human-automation system models, and attention models, to build a comprehensive model needed to make predictions in pre-crash situations, and needed to make quantitative estimates of hypothesized safety improvements. These models will be cross-validated and verified using both the driver simulation experiments in Project 1 and data obtained from driving simulator and field driving experiments. Research Objectives: - Year 1: Develop a multi-agent driver model for pre-crash human behavior understanding. - Year 2: Conduct research, verification, and model refinement

	studies on human intent for pre-crash behavior estimation.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	Pending project completion.
Impacts/Benefits of Implementation (actual, not anticipated)	Pending project completion

Web Links
    • Reports
 	
    • Project website
	http://citr.osu.edu/CrIS/wp-content/uploads/CrIS_UTC_PPPR_Final_Draft_043014.pdf
	
	http://citr.osu.edu/CrIS/?page_id=94