TOPIC	Modeling of Driver Behavior at the Intersections with Takagi-Sugeno Fuzzy Models
Organizers	Drs. Karimoddini and Homaifar; Gorji, and Lacewell (PhD students)
AREA	Control, Switch Systems, Autonomous vehicles, Data mining
SPEAKER	Saina Ramyar, PhD students, ACIT Center, North Carolina A&T State University
DATE	11 February 2015, Wednesday
TIME	2:00 PM to 3:00 PM
VENUE	ACIT Center, Room 342, Fort IRC Bldg, North Carolina A&T State University, 1601 East Market Street, Greensboro, NC 27411
FEES	No Charge

SYNOPSIS

Due to the relatively high density of vehicles and pedestrians at intersections, it is crucial for an Advanced Driver Assistance System (ADAS) to predict human driver behaviors to avoid crashes. Due to the complexity of human behavior interacting with a vehicle, it is very difficult to find an explicit model to analyze the driver's behavior. In the proposed method, we use the Takagi-Sugeno as a data driven technique to model and estimate driver's behavior at intersections. In this technique, a Takagi-Sugeno model is trained for each maneuver using a Gath-Geva clustering based algorithm. The proposed models are then evaluated with real-time experimental data and the prediction results are presented.

ABOUT THE SPEAKER

Saina Ramyar is a second semester PhD student at North Carolina A&T State University. She is currently a graduate research assistant at the ACIT Center working on driver behavior modeling for Autonomous Vehicles and Advanced Driving Assistance Systems (ADAS). She received a Bachelor and a Master degree in Electrical Engineering both from Ferdowsi University of Mashhad, Iran on September 2011 and February 2014 respectively.

REMARKS, IF ANY