



TOPIC	Development of a Simulated Environment for Decision Making Performance with an Autonomous System Under Uncertainty
ORGANIZERS	Student Leadership Council and Faculty of ACIT Institute and TECHLAV Center
AREA	Decision Making (Humans and Autonomous Systems)
SPEAKER	Marcia Nealy
DATE	Friday, March 17, 2017
TIME	3:30 – 4:00 P.M. (EST)
VENUE	Fort IRC 410, North Carolina A&T State University, UTSA and SIPI will be joining through video-conferencing
FEES	No Charge

SYNOPSIS

Simulated environments are computer simulations that use real world situations where a user performs operational functions while in a system in real time. The purpose of this project is to create a simulated environment that can be used by both a human as well as an autonomous system. Lens model (LM) serves as the decision-making framework and is suitable for the simulated environment that is being created to be utilized by users: humans and autonomous systems. A mathematical approach called the lens model equation (LME) that has five parameters: achievement, predictability, consistency, linear knowledge, and unmodeled knowledge. These five parameters are correlated by using a variety of cues and are essential to the correspondence between an environment and a user. The validity of the cues are related to the environment whereas the user utilizes these cues to reach an achievement. Therefore, a Hybrid Lens Model (HLM) approach will be formulated to calculate the choice functions by the original parameters of a lens model to form hybrid generators (HGs). The data from the simulated environment will be entered the statistical analysis system (SAS) program. A developed computer-based simulation testbed will explore these five components: decision 1, confidence 1, autonomous decision aid, decision 2, and confidence 2. Decision 1 and decision 2 are the choices made by the user based on the cues provided within the simulated environment whereas confidence 1 and confidence 2 are how certain the user is about their decision. Each of these factors in the computer-based simulation testbed play a key role in a simulated environment being developed.

ABOUT THE SPEAKER



Marcia Nealy is a second-year master's student in the Industrial & Systems Engineering Department at North Carolina A&T State University. Her interests are in simulation and optimization. She received her Bachelor of Science degree in Mathematics from Bennett College for Women in May 2012.