Announcing the Final Examination of Brent Miller for the degree of Master of Science

Time & Location: November 7, 2014 at 2:00 PM in HEC 438
Title: Statistical model checking for provably correct control of cyber-physical systems

Traditional control systems employ equation-based control laws and fixed mathematical models, where feedback from the system is compared against specifications of desired system performance. We present an algorithm which employs model checking to generate provably correct control of high-assurance cyber-physical systems, using bounded linear temporal logic to formally specify performance requirements. Our algorithms leverages advancements in high-performance computing as well as algorithmic model checking to suggest that this is a practical approach for generating control of high-assurance cyber-physical systems.

Major: Computer Science

Educational Career:
Bachelor’s of Computer Science, BS, 2012, University of Central Florida

Committee in Charge:
Sumit Jha, Chair, CECS
Gary Leavens, UCF CECS
Shaojie Zhang, UCF CECS

Approved for distribution by Sumit Jha, Committee Chair, on October 24, 2014.

The public is welcome to attend.