Announcing the Final Examination of Paul Scovanner for the degree of Doctor of Philosophy

Time & Location: June 27, 2011 at 11:00 AM in HEC 101
Title: MODELING PEDESTRIAN BEHAVIOR IN VIDEO

The purpose of this dissertation is to address the problem of predicting pedestrian behavior in and among crowds. Specifically, we will focus on an agent based approach where pedestrians are treated individually and parameters are learned from video data. These learned pedestrian models are useful in applications such as tracking, and simulation.

We train our pedestrian model by optimizing the parameters in order to minimize a loss function computed between a model's prediction and annotated ground-truth pedestrian tracks. The formulation of the underlying energy function is such that using tight convex upper bounds, we are able to efficiently compute the derivative of the loss function with respect to the parameters of the model. Once this is accomplished, the model parameters are updated using straightforward gradient descent techniques in order to achieve an optimal solution.

Major: Computer Science

Educational Career:
Bachelor's of Computer Science, BS, 2005, University of Central Florida
Master's of Computer Science, MS, 2007, University of Central Florida

Committee in Charge:
Marshall Tappen, Chair, EECS
Charles Hughes, EECS
Gita Sukthankar, EECS
Rahul Sukthankar, Intel /CMU

Approved for distribution by Marshall Tappen, Committee Chair, on June 3, 2011.

The public is welcome to attend.