Announcing the Final Examination of Adarsh Nagaraja for the degree of Master of Science

Time & Location: May 9, 2011 at 10:00 AM in HEC 356
Title: Feature pruning for Action recognition in Complex environment

A significant number of action recognition research efforts use spatio-temporal interest point detectors for feature extraction. Although the extracted features provide useful information for recognizing actions, a significant number of them contain irrelevant motion and background clutter. In many cases, the extracted features are included “as is” in the classification pipeline, and sophisticated noise removal techniques are subsequently used to alleviate their effect on classification. We introduce a new action database, created from the Weizmann database, that reveals a significant weakness in systems based on popular cuboid descriptors. Experiments show that introducing complex backgrounds, stationary or dynamic, into the video causes a significant degradation in recognition performance. Moreover, this degradation cannot be fixed by fine-tuning the system or selecting better interest points. Instead, we show that the problem lies at the descriptor level and must be addressed by modifying descriptors.

Major: Electrical Engineering

Educational Career:
Bachelor’s of Bachelors of Engineering, BS, 2006, Visveswaraiha Technological University

Committee in Charge:
Dr Marshall Tappen, Chair, Electrical Engineering and Computer Science
Dr Niels Da Vitoria Lobo, Electrical Engineering and Computer Science
Dr Hassan Foroosh, Electrical Engineering and Computer Science

Approved for distribution by Dr Marshall Tappen, Committee Chair, on April 19, 2011.

The public is welcome to attend.