

Computer Science Seminar Learning Structured Models to See People

by

Dr. Yang Wang

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Abstract

People are arguably the most interesting class of objects in the visual world. Understanding people in images and videos has been one of the grand challenges of computer vision. A reliable solution to this challenge will enable numerous applications in various domains, e.g. security, surveillance, entertainment, HCI, health care, etc.

Understanding humans is challenging, due to the large amount of appearance variations (body pose, clothing, etc) and the complex ways through which people can interact with each other or the environment they live in. In this talk, I will give an overview of our work on addressing various tasks in the general area of "looking at people". I will describe machine learning algorithms for these tasks that leverage rich, structured models learned from training data. I will first introduce our research on estimating human poses in images using hierarchical pose information. Then I will describe our work on human action recognition that builds upon the human poses. Finally, I will introduce our work that goes beyond each individual person and try to infer the collective activity of a group of people.

This speaker is a candidate for a tenure-track position in the Department of Computer Science.