

SenSIP Graduate Student Seminar Series

Improvements to Reconstruction-Free Inference in Compressed Sensing

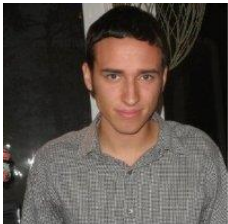
Presenter: Henry Braun, PhD Candidate

April 22 (Friday), 2016, 11:00 AM

Room: GWC 409

Abstract

Compressed Sensing typically requires the use of computationally expensive reconstruction algorithms to convert CS data into a human-readable form. In automated systems, it may be feasible to skip this step and perform inference directly on the CS data. To this end, we have developed a prototype computer vision algorithm for tracking moving vehicles in CS video data. This algorithm, while functional, relies on a relatively simple maximum average correlation height (MACH) filter for target likelihood estimates. Work is now underway to implement more sophisticated approaches; I present results on a Deep Boltzmann Machine approach, which has shown promise in early tests.



Biography:

Henry Braun completed his BS and MS degrees in electrical engineering at Arizona State University in Tempe, Arizona, and is continuing as a PhD student. During an internship at the NASA Jet Propulsion Lab working in the computer vision field, he developed a strong interest in information processing and decision making. His primary research interest areas are compressive sensing and automatic target recognition and tracking. Henry's research sponsors while at ASU have included

Raytheon missile systems and Paceco Corp.

Refreshments

Upcoming Student Seminars:

Weina Wang, *The Value of Privacy: Strategic Data Subjects, Incentive Mechanisms and Fundamental Limits*, 04/29

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