

Alan C. O'Connor

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Education:

Harvard University, School of Engineering and Applied Sciences

Cambridge, MA

Ph.D. Engineering Sciences, expected 2011

S.M. Engineering Sciences, May 2008

Advisor: Roger Brockett

Graduate Coursework: Stochastic Control, Nonlinear Control, Estimation and Control, Decision Theory, Statistical Learning Theory, Classical Electromagnetism, Fluid Dynamics, Differential Topology, Physical Mathematics, Complex Analysis

University of Maryland

College Park, MD

B.S., Electrical Engineering, summa cum laude, May 2006

Gemstone Program: undergraduate team research on augmented reality

Advanced Coursework: Control Theory, Digital Signal Processing, Multimedia Signal Processing, Real Analysis, PDE, Linear Algebra

Research Experience:

Harvard Robotics Lab

Cambridge, MA

Sept. 2007-present

Supervisor: Prof. Roger Brockett

Conducted research on optimal control of the processes by which data are collected for state estimation. Considered applications to high-level control of distributed sensor networks and radar.

AT&T Research

Florham Park, NJ

Summer 2006, 2007

Supervisors: Dr. Vinay Vaishampayan and Dr. Shankar Krishnan

Investigated theoretical performance limitations of stereo vision systems. Applied Bayesian decision theory to detection of foreground objects in video. Developed components for a shape-from-silhouette 3D video system.

Intelligent Servo-systems Lab

College Park, MD

2003-2006

Supervisor: Prof. P.S. Krishnaprasad

Collaborated in the ongoing development of a high-level robot control language. Developed and tested algorithms to extract surface curvature data from laser range-finder readings for the purpose of obstacle avoidance. Conducted independent research on wireless signal strength based localization.

Space Telescope Science Institute

Baltimore, MD

Summer 2002

Supervisor: Dr. Duccio Macchetto

Compiled data for an internal review of the Hubble program.

Teaching Experience:

Differential Equations (AM 105b)

Spring 2009

Instructor: John Hutchinson

Undergraduate course on ordinary and partial differential equations

Planned and held weekly discussion sections, office hours, and assisted with grading.

Decision Theory (ES 201)

Spring 2008

Instructor: Roger Brockett

Graduate course on learning theory and pattern classification

Planned and held weekly discussion sections, office hours, and graded assignments.

Papers:

A. O'Connor, Control of Observation Systems with Application to Radar, in *Proc. of 21st Chinese Control and Decision Conference*, pp. 2151-2156, 2009.

A. O'Connor, V.A. Viashampayan, S. Krishnan, and A.R. Reibman, Depth Estimation Accuracy Based on Texture Characteristics. In preparation.

F. Zhang, A. O'Connor, D.R. Luebke and P.S. Krishnaprasad, Experimental Study of Curvature-based Control Laws for Obstacle Avoidance, in *Proc. of IEEE ICRA*, pp. 3849-3854, 2004.

Awards and Scholarships:

Zhang Si-Ying (CCDC) Outstanding Youth Paper Award, 2009

Herbert S. Winokur, Jr. Fellowship in Decision Sciences, 2007-2008

Courtlandt S. Gross Memorial Scholarship, 2007-2008

Sujan Guha Memorial Award, best thesis in electrical engineering, 2006

Banneker/Key Scholar, National Merit Scholar 2002-2006

Skills:

C++, Matlab, Linux/Unix, LaTeX, Microsoft Office

Fluent in Spanish