

DANIEL T. CASNER

Address: 1260 Ayala Dr. #210, Sunnyvale, CA 94086, USA

Phone: 650.996.8730

Email: daniel.t.casner@ieee.org

Web: www.danielcasner.org

Education:

M.S. Computer and Systems Engineering, Rensselaer Polytechnic Institute, Troy NY, December 2007
Concentration: Control, Robotics and Automation
These: Adaptive Topology Control of Distributed Mobile Sensor Networks
Advisor: Arthur Sanderson, Ph.D.

B.A. Physics, Lawrence University, Appleton WI, June 2006, Cum Laude
Minors: Computer Science, Japanese

Research and Professional Experience:

Robotics Engineer

Anybots Inc., Mountain View, CA, 2008 to Present

- Improved visual feedback software to present views from a remote robot to an operator adding operator head tracking and stereoscopic display including a novel technique for preventing operator disorientation.
- Worked closely with patent attorneys to write and file numerous patent applications.
- Managed trade show booth and publicity campaign at the 2009 Consumer Electronics Show.
- Created firmware for numerous AVR microcontroller based robot actuator and sensor control boards.
- Engineered numerous robot circuit boards integrating digital, analog, high frequency, and USB technology.
- Contributed to the design of a 20+ degree of freedom human capable robotic hand with unparalleled strength and dexterity.
- Conducted extensive reliability tests on robot hardware and software components.

Graduate Research

Rensselaer Polytechnic Institute Center for Automation Technologies and Systems (CATS), Troy, NY, September 2006 to December 2007

- Developed algorithms and control laws to maintain connectivity between mobile sensor nodes under adverse conditions and testing these algorithms both in simulation and actual implementation.
- Wrote numerous TinyOS applications and modules and designed custom Mote hardware expansions.

Undergraduate Research

Lawrence University Computer Science Department, Appleton, WI, January to June 2006

- Created artificial intelligence planning software capable of correctly handling non-deterministic interactions of a physical robot with the world.
- Performed wide reading in the AI planning field.

Technical Scholar

DOE Joint Genome Institute, Walnut Creek, CA, Summer 2006

- Worked closely with researchers and other interns to develop novel DNA sequencer run time calculation software with the potential to increase read lengths and decrease sequencing costs per base by up to 10 percent.

Research Associate

Monterey Bay Aquarium Research Institute (MBARI), Moss, Landing, CA, Summer 2005

- Conducted primary work of convert Autonomous Underwater Vehicle (AUV) control software from QNX to Linux operating system.
- Wrote and modified several Linux kernel modules to enhance real-time inter-process communication and work with AUV hardware.
- Assisted with at sea AUV operation on 8 day research cruise collecting data over 600km.
- Maintained AUV hardware.

Software Engineer (part time)

Miller Electric Mfg. Co. Appleton, WI, September 2004 to 2007

- Designed and implemented an original AJAX web interface and server back end for remote operation of embedded factory equipment.

Teaching Experience:

Teaching Assistant

Rensselaer Polytechnic Institute ECSE Department, Troy, NY, Fall 2007

- Control Systems Engineering
- Fundamentals of Robotics

Guest Lecturer

Rensselaer Polytechnic Institute ECSE Department, Troy, NY, April 2007

- Gave an in depth introduction to a real distributed sensor network implementation to the Distributed Systems and Sensor Networks class.

Computer Science Tutor

Lawrence University Computer Science Department, Appleton, WI, September 2005 to June 2006

- Provided assistance to students in Java programming, data structures and scientific programming techniques.

Physics and Quantitative Tutor

Lawrence University Center for Teaching and Learning, Appleton, WI, September 2004 to March 2005

- Led group tutoring sessions and provided individual tutoring in Calculus, Physics and general quantitative skills.

English Teacher

Tsuga Elementary School, Chiba, Japan, March 2005 to July 2005

- Instructed 1st through 5th grade students in English.
- Helped develop interactive language learning activities

Presenter

Barlow Planetarium, Menasha, WI, 2002 to 2004

- Presented a wide variety of astronomy information to groups of preschool through junior college students in live planetarium shows.

Skills:

- Environments: Embedded systems, AVR, Linux, Unix, TinyOS, OPEN-R, Windows CE and Windows 32
- Programming languages: C/C++, Python, MATLAB and many others
- Foreign language: Japanese

Publications:

- D. Casner, et al. Closed Loop Tuning of Gene Sequencing Run Times. *Lawrence Livermore National Laboratory 2006 Student Research Symposium*, August 2006, Livermore CA.

Activities:

Mentor for FIRST LEGO League

Member, IEEE Robotics and Automation Society Santa Clara Valley

Honors and Awards:

- Inducted to Sigma Pi Sigma National Physics Honor Society, May 2005
- Awarded the Henry Merritt Wriston Scholarship for academic excellence, 2003
Given to 4 out of 400 freshmen annually
- Inducted to Lambda Sigma Honor Society, June 2003
- Awarded the Lawrence University Trustee Scholarship, 2002
Lawrence University's highest academic merit scholarship
- Received Kohl Academic Excellence Award, 2002
Awarded to 100 students in Wisconsin annually