

Erik Pasternak

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Objective:

To obtain a position in consumer robotics or electronics that will utilize my skills while allowing me to explore new technologies and areas of research, especially those pertaining to systems and human robot interaction.

Education:

Graduate: Carnegie Mellon University Degree: Master's in Robotics, Aug. 2009

Undergrad: UC Santa Cruz Degree: BS in Computer Engineering, Jun. 2008

Academic Honors:

Highest Honors in Computer Engineering

Tau Beta Pi Engineering Honor Society

Plantronics Scholarship Recipient

Mantey Leadership Award

Positions:

May, 2007 – June, 2008 Tau Beta Pi, CA-AD Chapter President

- Organized TBP/UCSC Engineering Honor Society activities, including our recent installation into TBP. In early 2008 we opened the Undergraduate Hardware Lab at UCSC and established a joint committee with IEEE and SWE to oversee the lab. The California Alpha Delta Chapter was installed on March 8th, 2008.

Experience:

Oct, 2008 – Aug, 2009 CREATE Lab, CMU Master's Student

- Supported a new educational robot, the Finch, including C firmware updates and Java examples for courses. Designed and implemented architecture for a visual programming environment called JubJub that currently supports the Finch. Current work is on establishing JubJub as an open source project and expanding the visual language to support more materials.

Jan, 2009 – Jun, 2009 Systems Engineering, CMU Master's Student

- Team lead for a group which designed and built an interactive display for the Children's Museum of Pittsburgh. System was installed in the museum for a three day exhibit and was used by over 250 children during its operation.

Aug, 2009 – Dec, 2009 Bio-Inspired Robotics, CMU Master's Student

- Developed an adaptive camouflage algorithm using visual feedback. Built a proof-of-concept system which analyzed a visual scene and compared it to a generated output which was then modified to better match its surroundings. Tested on both monochrome and patterned backgrounds.

Jun, 2008 – July, 2008 Two One Nine Design Mechatronics Engineer

- Developed embedded and mechanical projects for clients independently. Performed a redesign of a power driver board which reduced cost by 40%. Completed a project for a client independently, including requirements gathering through final implementation.

Jun, 2007 – Aug, 2007 NASA Robotics Academy

Research Associate

- Developed algorithms for autonomous team repair in multi-robot systems. Headed the embedded software development for a proof-of-concept system which successfully executed a removal procedure on a damaged module, including team-cost analysis and path planning with obstacle avoidance.

Jan, 2007 – Jun, 2007 UC Santa Cruz

Engineering Design I/II

- Worked with a team to design and build a swarm of autonomous robots to map out a space and provide a platform for future swarms research. Headed development of a localization module, which provided relative and absolute positioning information for each robot in the system.

Sep, 2005– Jun 2008 UC Santa Cruz

Engineering Lab Tutor

- Worked with professors to develop lessons and material for labs in Intro to Assembly Language, Microcontroller Systems Engineering, Technical Writing, and Mechatronics. Designed and implemented a high power motor driver board for use by students. Instructed students and provided assistance on difficult concepts and problems.

Nov, 2005 – Jun, 2006 UCSC Engineering Honor Society

NanoMouse Developer

- Worked with other undergraduate students to develop the NanoMouse robot for high school engineering workshops. Organized assembly of over 100 robots and developed drivers. Instructed students in programming and use during a university event with about 100 high school participants.

Skills:

People: Leadership, Instruction, Communication

Lang: Java, MATLAB, Processing, C, C++, Assembly

System: PCB Design, Sensor Integration, MCU Communication Protocols, Documentation

App: CodeWarrior, MS Visual Studio, SolidWorks, Orcad, Altium, MATLAB, Eclipse, IntelliJ, subversion, MS Office, Adobe Photoshop, Adobe Illustrator

Relevant Classes:

Engineering Design I/II, Mechatronics, Bio-Inspired Robotics, Systems Engineering, Microprocessor System Design, Linear Dynamical Systems, Feedback Control Systems, Computer Vision, Artificial Intelligence, HCI, Embedded Systems Programming, Analogue Circuits, Technical Writing.