Brad Saund

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Education

June 2012 B.S., Mechanical Engineering • California Institute of Technology • Pasadena, CA
Graduated with Honors

Sept 2015-Present Master's student in the Robotics Institute at Carnegie Mellon.

Work Experience

Oct 2014 – July 2015 Software Development Engineer • Amazon • Seattle, WA

- Designed software on the Amazon Kindle E-Readers and Tablets for managing advertisements.

July 2012 – Oct 2014 Robotics Engineer • Electroimpact • Mukilteo, WA
Projects:

- Programming
  - Robot Numerical Controller to manage robot motion and sensor logic, in C++.
  - GUI to allow a person to easily control the robot, in C++.
- Data analysis
  - Developed a new model and implemented it in real time to improve robot accuracy by a factor of two.
  - Collect and analyze data to reduce positional error from a robotic arm manipulator.

2011-2012 Teaching Assistant • Caltech • Pasadena, CA

- Lectured to Mechanical Engineering students.
- Managed machine shop.

Summer 2010, 2011 Research Fellow • Caltech • Pasadena, CA
Project: Fluids Research
Funding: Summer Undergraduate Research Fellowship
Advisors: John Dabiri, Ph.D. and Beverly McKean, Ph.D.

- Designed, simulated, and fabricated parts for and tested a novel vertical axis wind turbine.
- Designed and performed fluids simulations and wind tunnel tests.

Publications

Brad Saund, Russ DeVlieg (2013, Sep 25). High Accuracy Articulated Robots with CNC Control Systems. Paper presented at Society of Aeronautical Engineers: AeroTech, Montreal.

Service

2013- Present Volunteer Mentor • FIRST LEGO League • Seattle, WA

- Mentor a team of middle school students in the practice and theory of robotics using the Mindstorms EV3 LEGO set.

2011-2012 President in student government • Caltech • Pasadena, CA

- Advocated for undergraduate student welfare.
- Worked closely with Deans, Vice President, and Housing.

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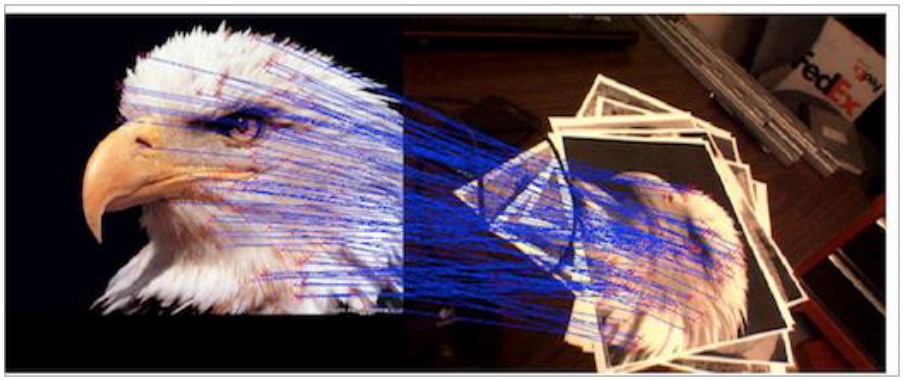
Personal Projects

2013 -2014 Multirotor-copter • Seattle, WA

- Built a hexacopter and have flown autonomously following a programmed path using GPS and an Inertial Measurement Unit while streaming video to a ground station.

2012 Robotic Vision • Caltech • Pasadena, CA

- Used input from wheel odometry, a camera, and a laser scanner to Simultaneously Localized And Map (SLAM) a vehicle in an obstacle field, in MATLAB.
- Detected a reference image in another picture and found the image's transform. Example image below:



- Determined motion between frames of a video camera. Example image below: