

Brad Saund

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Education

June 2012 B.S., Mechanical Engineering • California Institute of Technology • Pasadena, CA
GPA: 3.7 • Graduated with Honors

Work Experience

July 2012 – Present 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.

Summer 2009 Intern • Sezmi • Belmont, CA

- Programmed DVR-like device.
- Demoed DVR device to investors for this tech startup.

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

July 2014

Kinect v2 for Windows Hack-a-thon • Microsoft • Redmond, WA

- Team placed 2nd in contest.
- In 28 hours learned Kinect system and coded a playable game in C#.
- See video footage of game play here:
<https://www.youtube.com/watch?v=9F3NZILk5Ko>
- Screen shot of game play:

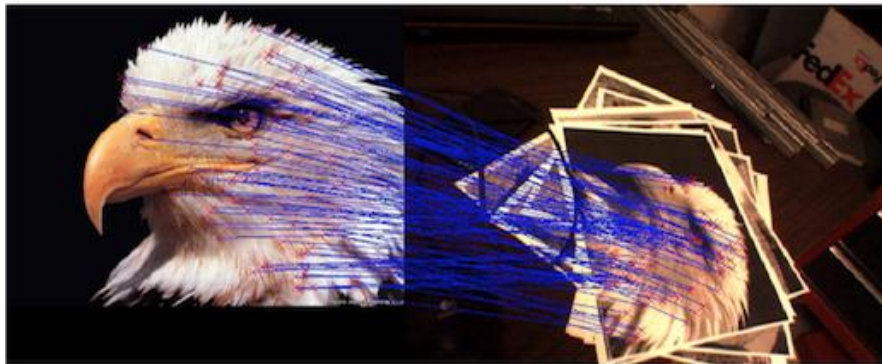
Score: 370
High: 2498



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:

