Stephen Brawner, PE

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Academic

Ph.D student, Computer Science. Brown University Providence, RI exp 2017
GPA: 3.9
Co-Advisors: Stefanie Tellex, Michael Littman
Research Focus:

- Modeling human user intentions, interests and goals to improve task planning in shared autonomy

B.S. Engineering. Harvey Mudd College Claremont, CA 2007
GPA: 3.2. Deans List

- *Microprocessor Design* - Led memory design team through floorplan, schematics and layout
- *Clinic Project. Raytheon Company* - Designed proof of concept specular array calibration apparatus for use with satellite imagery
- *NASA Microgravity Office Undergraduate Competition* - Collaborated on mechanical design of fluid dynamics experimental apparatus to operate in unpredictable microgravity conditions aboard NASA Weightless Wonder

Professional

Software Engineering Intern, Bot & Dolly Inc. 2013

- Designed and developed software infrastructure to interface with 6 DOF industrial robots to enable CAD designed manufacturing.

Professional

Software Research Intern, Open Source Robotics Foundation, Inc. 2012-2013

- Researched and built Robust, a markup language and continuous integration framework for robot testing in ROS (Robot Operating System) to facilitate proof-by-reproducibility in research and to aid third-party software and hardware developers in testing their add-ons across diverse robot setups.

Software Engineering Intern, Willow Garage 2012

- Developed a SolidWorks add-in to export a complex robot design to a ROS compatible URDF (Unified Robot Description Format) file

Consulting Engineer. Los Angeles, CA 2010-2011

- Designed and built compact device to coordinate still cameras, 3D stereoscopic sliders, grow lights and imaging lights for 3D time lapse video
- Designed and built concussion monitoring system for use in youth football

Project Engineer. eSolar, Inc. Pasadena, CA 2008-2010
Heliostat Cleaning System: System, Mechanical, Controls Design and Testing
Patent: 8449692, "Heliostat Field Cleaning System", First Inventor

- Designed patented system to clean 12,000 mirrors nightly with only two operators
- Developed semi-autonomous heliostat cleaning vehicle as key feature of system design to restore mirror cleanliness to 95% with minimal operator intervention

Heliostat: Design for Manufacturing and Assembly

- Provided detailed insight to reduce part count and simplify manufacturing processes leading to fully assembled cost reduction of 45%

System Administrator Harvey Mudd College. Claremont, CA 2007-2008

- Deployed and maintained Engineering department computer systems to provide 24/7 availability

Primary Programming Languages
C++, Python, Java, C#, MATLAB, C

Professional Mechanical Engineer
California: License No. 35370

Open Source Software

- SW2URDF: bitbucket.org/brawner/sw2urdf
- Collision Map Creator: bitbucket.org/brawner/collision_map_creator_plugin