Benjamin Shih

benjshih@gmail.com
http://benshih.github.io
United States Citizen
https://github.com/benshih

Education

University of California, San Diego — San Diego, CA
Ph.D. Mechanical and Aerospace Engineering — August 2015 - present

Carnegie Mellon University — Pittsburgh, PA
M.S. Electrical and Computer Engineering — August 2013 - December 2013
B.S. Electrical and Computer Engineering — August 2009 - May 2013

Skills

Software: MATLAB, Eagle, SolidWorks, LaTeX, Git, Cadence, ProTools
Electronics: soldering, oscilloscope, function generator, multimeter, circuit simulation, PCB board design, microcontroller programming
Coding: C++, Python, Java, C, HTML
Languages: English (proficient), Mandarin Chinese (speaking), Spanish (basic)

Experiences

Bioinspired Robotics and Design Lab, UCSD — San Diego, California
Graduate Research Assistant — September 2015 - present

- Soft robotics, proprioceptive sensing, pneumatic actuation.
- Advised by: Prof. Michael Tolley

Momentum Machines — San Francisco, California
Embedded Software Engineering Intern — May 2015 - August 2015

- Food technology startup using robotics and automation to produce gourmet food.
- Requirements gathering and electronics interfacing of dozens of sensors and actuators. Used an ARM-based microcontroller.
- Lead engineer for PCB fabrication of 6 unique boards with a design firm.
- Statecharts (finite state machine) software architecture for embedded control. Used a web-based graphical user interface to facilitate rapid prototyping and fast system bringup.
- Prototyped and tested various subsystem mechanisms for mechanical engineering team.
- Advised by: Jeff Jensen, Ali Rathore.

Reconfigurable Robotics Lab, EPFL — Lausanne, Switzerland
Research Assistant, École Polytechnique Fédérale de Lausanne — May 2014 - April 2015

- Built untethered, locomotive robot using soft pneumatic actuators (SPAs).
- Experimented with actuator frames to improve actuation consistency.
- Automated SPA testing using computer vision.
- Advised by: Prof. Jamie Paik, Dr. Juan Manuel Florez.

Honors

Semifinalist, Hackaday Prize 2015 — August 2015
UCSD Departmental Fellowship — February 2015
Winner, Intel Internet of Things Hackathon, Berlin (1500 EUR) — April 2015
Finalist (top 25 out of 101 projects), HackZurich Hackathon — October 2014
Scholarship of Excellence in Research at EPFL (20k CHF) — February 2014
Small Undergraduate Research Grant, Carnegie Mellon University (500 USD) — November 2011
NanoJapan NSF International Research Experience for Undergraduates Program — February 2011
Intel Science Talent Search, Semifinalist (1000 USD) — January 2009

Conference Publications

J. M. Florez, **B. Shih**, Y. Bai, J. Paik. "Soft Pneumatic Actuators for Legged Locomotion". IEEE International Conference on Robotics and Biomimetics (ROBIO 2014), Bali, Indonesia. December 2014. Acceptance rate: 58.6% (374 of 638).