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## EDUCATION

- Carnegie Mellon University** (expected) 2016 – 2022  
Ph.D., Robotics Institute
- University of California, Berkeley** 2012 – 2016  
B.S., Electrical Engineering and Computer Sciences, 3.854 GPA

## RESEARCH

- Automation Sciences Lab at UC Berkeley (Advisor: Ken Goldberg)** 01/2015 – 05/2016
- Worked on robust grasp planning, studying scaling effects for multi-armed bandit models with correlated rewards. Was a primary developer of a pipeline that utilized the Google Cloud Platform to parallelize grasp quality analysis for over 2.5 million grasps, reducing runtime by more than three orders of magnitude.
  - Implemented different object privacy-preserving approaches for cloud-based grasp planning. Analyzed how these masking methods affected the robustness of planned grasps and object similarity metrics.

## PUBLICATIONS

### **Privacy-Preserving Cloud-Based Grasp Planning**

Jeffrey Mahler, Brian Hou, Sherdil Niyaz, Florian T. Pokorny, Ramu Chandra, Ken Goldberg.  
IEEE International Conference on Automation Science and Engineering (CASE), 2016.  
*Finalist, Best Student Paper Award*

### **Dex-Net 1.0: A Cloud-Based Network of 3D Objects for Robust Grasp Planning Using a Multi-Armed Bandit Model with Correlated Rewards**

Jeffrey Mahler, Florian T. Pokorny, Brian Hou, Melrose Roderick, Michael Laskey, Mathieu Aubry, Kai Kohlhoff, Torsten Kroeger, James Kuffner, Ken Goldberg.  
IEEE International Conference on Robotics and Automation (ICRA), 2016.  
*Finalist, Best Manipulation Paper Award*

### **Fuzz Testing Projects in Massive Courses**

Sumukh Sridhara, Brian Hou, Jeffrey Lu, John DeNero.  
ACM Conference on Learning @ Scale (L@S), 2016.

### **Nifty Assignments: Restaurant Recommendations**

Brian Hou, Marvin Zhang, John DeNero.  
ACM Technical Symposium on Computer Science Education (SIGCSE), 2016.

### **Problems Before Solutions: Automated Problem Clarification at Scale**

Soumya Basu, Albert Wu, Brian Hou, John DeNero.  
ACM Conference on Learning @ Scale (L@S), 2015.

## HONORS & AWARDS

- UC Berkeley Outstanding Graduate Student Instructor Award** 05/2016
- NSF Graduate Fellowship Program Honorable Mention** 03/2016
- UC Berkeley EECS Honors Degree Program** 08/2014
- UC Berkeley Eta Kappa Nu** 12/2013
- UC Berkeley College of Engineering Dean's Honors List** 05/2013
- UC Berkeley Regents' and Chancellor's Scholar** 03/2012
- National Merit Scholarship Winner** 03/2012

## TEACHING

Teaching reviews are available at [hkn.eecs.berkeley.edu/bhou](http://hkn.eecs.berkeley.edu/bhou).

**Lecturer for CS 61A (SICP) at UC Berkeley** 06/2016 – 08/2016

- Co-instructor for the largest summer offering of Berkeley's introductory CS class (over 350 students).
- Managed staff of 12 TAs and 12 graders/tutors, wrote and gave lectures, restructured course schedule, and rewrote two of four programming projects.

**Teaching Assistant for CS 189/289A (Machine Learning) at UC Berkeley** 01/2016 – 05/2016

- Led discussion sections for Berkeley's Introduction to Machine Learning course for graduate students and advanced undergraduates.
- Helped write and grade exams, held office hours, and developed course assignments.

**Teaching Assistant for CS 61A (SICP) at UC Berkeley** 06/2013 – 12/2015

- Led lab and discussion sections for Berkeley's introductory computer science course for five semesters.
- Managed over 70 TAs/tutors who collectively taught 1,300 students as co-head TA.
- Designed a new project with another TA to introduce freshmen to introductory topics in machine learning (k-means clustering, linear regression). We presented our work during the Nifty Assignments Panel at SIGCSE 2016.
- Helped develop autograder to provide students with automated feedback on problem understanding and solution correctness.
- Wrote additional material (weekly quizzes, practice midterm) to provide students with more practice.
- Interviewed candidates for Summer 2015 and Fall 2015 TA positions.
- Guest lectured about data abstraction and implementing an object-oriented programming language.

**Teaching Assistant for CS 188 (Artificial Intelligence) at UC Berkeley** 06/2014 – 08/2014

- Led discussion sections for the first summer offering of Berkeley's Introduction to AI course.
- Helped write and grade exams, held office hours, and managed course materials on edX.

## SERVICE & OUTREACH

**Executive Officer for Eta Kappa Nu, Mu Chapter** 05/2014 – 12/2015

- Oversaw the Mu Chapter's activities and helped manage over 30 officers and 60 initiates each semester.
- Worked closely with EECS department to organize six student-faculty lunches in one semester.
- Presented student survey results at EECS faculty retreat, highlighting topics such as stress and mental health, academic dishonesty, and student-faculty relations with other student group leaders.
- Coordinated anonymous course evaluations for all EECS classes, surveying over 8,000 students.
- Led department tours for prospective undergraduates, as well as middle and high school students.