

Jacob Varley

✉ jvarley@cs.columbia.edu • <http://www.cs.columbia.edu/~jvarley/>

Education

Columbia University <i>Ph.D. Computer Science</i> Advisor: Professor Peter Allen	New York City, NY 2013–present
Massachusetts Institute of Technology <i>B.S. in Computer Science (6-3)</i>	Cambridge, MA 2009–2013

Awards

AAAI-16 Robotics Fellow <i>Award to robotics students to foster dialogue between Robotics and AI researchers.</i>	Phoenix, USA Spring 2016
NSF EAPSI Fellow <i>Collaborated with the HUBO lab at KAIST.</i>	Daejeon, South Korea 2014

Research and Industry Experience

Columbia University Robotics Group <i>Graduate Research Assistant for Professor Peter Allen</i> Explored the intersection of machine learning and robotics with a focus on experience based grasp planning.	New York City, NY 2013–present
Clarifai <i>Machine Learning Research Intern</i> Implemented novel Deep Learning algorithms for confidential projects.	New York City, NY Summer 2015
HUBO Lab - KAIST <i>NSF EAPSI Fellow</i> Developed new experience based planning algorithms for generating multi-fingered robotic grasps. Shared expertise related to ROS and Gazebo simulator with the HUBO lab.	Daejeon S.K. Summer 2014
Level Solar <i>Contract IOS Development</i> Developed IOS application for use by door to door sales team.	Cambridge, MA Summer 2013
AVG (OpenInstall) <i>Software Engineering Intern</i> Researched best practices for and deployed a Continuous Integration Framework for Engineering Team.	San Francisco, CA January 2013
MIT EECS Undergraduate Research and Innovation Scholar <i>Undergraduate Research Assistant for Professor Catherine Havasi</i> Developed build system for ConceptNet5	Cambridge, MA Fall 2012/Spring 2013
Qualcomm Labs <i>Software Engineering Intern</i> Contributed to Gimbal Project (http://www.gimbal.com/) Interned during product release Time was split evenly between Android and IOS SDK's and shared server backend.	San Diego, CA Summer 2012
MIT Undergraduate Research Assistant <i>Undergraduate Research Assistant for Professor Josh Tenenbaum</i>	Cambridge, MA Fall 2011

Developed software in the Computational Cognitive Science Group to model fluids and gain a more quantified understanding of how people perceived and predict the motion of fluids.

TripAdvisor

Software Engineering Intern

Developed machine learning based validation tool to verify outgoing links.

Newton, MA

Summer 2011

CVision Technologies

Software Engineering Intern

Expanded company's website to include 20+ other languages in order to increase international business.

Provided analysis of competitors marketing and online presence strategies

New York City, NY

Summer 2010

Publications

- [1] Jacob Varley, Chad DeChant, Adam Richardson, Avinash Nair, Joaquín Ruales, and Peter Allen. "Shape Completion Enabled Robotic Grasping". In: *preprint arXiv:1609.08546 Submitted to ICRA (2017)*.
- [2] Jacob Varley, Caroline Weinberg, Srihari Sridhar, Jonathan Weisz, Ethan Rand, Kenneth Lyons, Sanjay Joshi, Joel Stein, and Peter Allen. "Human Robot Interface for Assistive Pick and Place (Abstract and Poster)". In: *HUMORARR workshop, RO-MAN (2016)*.
- [3] Jacob Varley, Srihari Sridhar, Jonathan Weisz, Ethan Rand, Kenneth Lyons, Sanjay Joshi, Joel Stein, and Peter Allen. "Human Robot Interface for Assistive Grasping". In: *Socially & Physically Assistive Robotics For Humanity workshop, Robotics: Science and Systems (2016)*.
- [4] Jacob Varley, Jonathan Weisz, Jared Weiss, and Peter Allen. "Generating Multi-Fingered Robotic Grasps via Deep Learning". In: *Intelligent Robots and Systems (IROS), 2015 IEEE/RSJ International Conference on. 2015*.
- [5] Jacob Varley, Jonathan Weisz, Jared Weiss, and Peter Allen. "Multi-Fingered Robotic Grasps via Deep Learning (Poster)". In: *New England Manipulation Symposium (2015)*.

Teaching Experience

Humanoid Robots: (COMSW6731) Teaching Assistant *Spring 2016*

Humanoid Robots: (COMSW6998-03) Teaching Assistant *Spring 2015*

Computational Aspects of Robotics: (COMSW4733) Teaching Assistant *Fall 2014*

Public Speaking

Movie Night at the Intrepid Museum

Introduced Big Hero 6 on flight deck of the USS Intrepid.

New York City, NY

Summer 2016

Interests

Phi Delta Theta Fraternity: President, Rush Chair, Community Service Chair, Social Chair

Gymnastics: Competed for 10 years including multiple collegiate competitions

MIT Battlecode: Competed with 2 partners against 100+ teams both Jan. 2012 and Jan. 2011