

Andy Zeng

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Education

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|---|----------------|
| Princeton University , Princeton NJ
PhD, Department of Computer Science
Advisor: Thomas Funkhouser | 2015 - present |
| Princeton University , Princeton NJ
MA, Computer Science | 2015 - 2017 |
| University of California, Berkeley , Berkeley CA
BA, Double Major in Computer Science and Applied Mathematics | 2011 - 2015 |

Research and Industry Experience

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| Google, Inc. , Daydream Team (AR/VR), Engineering Consultant | 2017 - present |
| Princeton Vision and Robotics Group , with Thomas Funkhouser | 2015 - present |
| MIT Manipulation and Mechanisms Lab , with Alberto Rodriguez | 2016 - 2017 |
| Stanford Computer Graphics Lab , with Matthias Nießner | 2015 |
| CMU Computer Vision Group , Robotics Institute Summer Scholar | 2014 |
| Berkeley Tele-immersion Lab , with Ruzena Bajcsy | 2013 - 2015 |
| Bay Area Intellectual Property Group , Research Assistant | 2013 |
| Lenovo, Inc. , Software Engineering Intern | 2009 - 2010 |

Honors and Awards

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| 1st Place Winners (Stow Task) of the Worldwide Amazon Robotics Challenge
<i>An internationally recognized premier competition for robotics and automation</i> | 2017 |
| Princeton PhD Fellowship | 2016 |
| 3rd Place Winners of the Worldwide Amazon Picking Challenge | 2016 |
| Gordon Y.S. Wu Fellowship in Engineering and Wu Prize
<i>"A highly selective and prestigious award" from Princeton University</i> | 2015 |
| 1st Place State (CA) Champion for FBLA Computer Programming | 2011 |

Invited Talks and Guest Lectures

Self-supervised Deep Learning for Model-free Grasping and Object Pose Estimation
NCTU Robotics Seminar: Robotic Manipulation - Perception Planning and Design, Nov. 2017

Robotic Pick-and-Place of Novel Objects
Google X and Google Brain in Mountain View, Nov. 2017

Deep Learning for Robotic Manipulation
Deep Learning for Graphics and Vision Seminar at Princeton University, Apr. 2017

Self-supervised Deep Learning
Deep Learning for Graphics and Vision Seminar at Princeton University, Mar. 2017

Self-supervised Learning Local Geometric Descriptors from 3D Reconstructions
Pixl at Princeton University, Nov. 2016

Lessons Learned from the Amazon Picking Challenge
CS Seminar at Princeton University, July 2016

Primitive-Level 3D Deep Learning
CVPR Tutorial: 3D Deep Learning, June 2016

Preprints

Andy Zeng, Shuran Song, Stefan Welker, Johnny Lee, Alberto Rodriguez, Thomas Funkhouser.
Learning Synergies between Pushing and Grasping with Self-supervised Deep Reinforcement Learning. *Under Review*. 2018.

Publications

Shuran Song, **Andy Zeng**, Angel Chang, Manolis Savva, Silvio Savarese, Thomas Funkhouser.
Im2Pano3D: Extrapolating 360 Structure and Semantics Beyond the Field of View. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. 2018.

Andy Zeng, Shuran Song, Kuan-Ting Yu, Elliott Donlon, Francois R. Hogan, Maria Bauza, Daolin Ma, Orion Taylor, Melody Liu, Eudald Romo, Nima Fazeli, Ferran Alet, Nikhil Chavan Dafle, Rachel Holladay, Isabella Morona, Prem Qu Nair, Druck Green, Ian Taylor, Weber Liu, Thomas Funkhouser, Alberto Rodriguez. Robotic Pick-and-Place of Novel Objects in Clutter with Multi-Affordance Grasping and Cross-Domain Image Matching. *IEEE International Conference on Robotics and Automation (ICRA)*. 2018.

Andy Zeng, Shuran Song, Matthias Nießner, Matthew Fisher, Jianxiong Xiao, Thomas Funkhouser. 3DMatch: Learning Local Geometric Descriptors from RGB-D Reconstructions. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. [Oral Presentation](#). 2017.

Shuran Song, Fisher Yu, **Andy Zeng**, Angel X. Chang, Manolis Savva, Thomas Funkhouser. Semantic Scene Completion from a Single Depth Image. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. [Oral Presentation](#). 2017.

Angel Chang, Angela Dai, Thomas Funkhouser, Maciej Halber, Matthias Nießner, Manolis Savva, Shuran Song, **Andy Zeng**, Yinda Zhang. Matterport3D: Learning from RGB-D Data in Indoor Environments. *IEEE International Conference on 3D Vision (3DV)*. 2017.

Andy Zeng, Kuan-Ting Yu, Shuran Song, Daniel Suo, Ed Walker Jr., Alberto Rodriguez, Jianxiong Xiao. Multi-view Self-supervised Deep Learning for 6D Pose Estimation in the Amazon Picking Challenge. *IEEE International Conference on Robotics and Automation (ICRA)*. 2017.

Leadership

Team MIT-Princeton at the Amazon Robotics Challenge 2015 - 2017
Princeton Team Lead (Perception Technology Development)
1st Place Winners (Stow Task) in 2017, 3rd Place Winners in 2016

Upsilon Pi Epsilon (Computer Science Honor Society at Berkeley) 2013 - 2015
President

The Berkeley Forum 2012 - 2014
IT Chair

Teaching Experience

Teaching Assistant

Princeton COS 426 Computer Graphics Spring 2017
Princeton COS 429 Computer Vision Fall 2016

Lab Assistant

Berkeley CS61a Structure and Interpretation of Computer Programs Fall 2012

Mentoring and Advising

Princeton Undergraduate Research

Ed Walker
Prem Qu Nair

Professional Activities

Paper Reviewing

IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016, 2017, 2018
IEEE International Conference on Robotics and Automation (ICRA), 2018
The International Journal of Robotics Research (IJRR), 2017
European Conference on Computer Vision (ECCV), 2016
IEEE International Conference on Computer Vision (ICCV), 2017
Neural Information Processing Systems (NIPS), 2015
Special Interest Group on Computer GRAPHics and Interactive Techniques (SIGGRAPH), 2016
Pattern Recognition (PR, Journal), 2017
Eurographics (EG), 2018
IEEE Transactions on Image Processing (TIP), 2017
IEEE International Conference on Automation Science and Engineering (CASE), 2017

Conference Tutorial/Workshop Organization

Tutorial: 3D Deep Learning, CVPR 2016

Other Technical Activities

Berkeley ASUC Office of the President, iOS Mobile Application Developer	2014
The Berkeley Forum, Webmaster and Site Production Lead	2012 - 2014

Affiliations

IEEE Computer Society, Member	2015 - present
Association of Computing Machinery, Member	2015 - present
Berkeley Upsilon Pi Epsilon Computer Science Honor Society, President	2013 - 2015
Berkeley Computer Science Undergraduate Association, Member	2012 - 2015