

# Brent Yi

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- Education**      **University of California, Berkeley • BA Computer Science**  
Technical GPA: 3.97 / Expected Graduation: May 2019 (Pursuing PhD in CS/Robotics)
- Experience**      **Robot Learning Lab • Undergraduate Researcher**  
C++, Python, ROS, Altium Designer / September 2016 - Present
- Leading software and control stack for a custom 7 DOF robotic manipulator, including inverse kinematics, state estimation, motor control, and VR teleoperation systems
  - Videos available: [berkeleyopenrobotics.github.io](https://berkeleyopenrobotics.github.io) • Adviser: Prof. Pieter Abbeel
- UC Berkeley EECS C106A/206A • Teaching Assistant**  
Linear Algebra, Python, ROS / August 2018 - Present
- Instructing UC Berkeley's *Introduction to Robotics* course: leading discussions, homeworks, & exams for class on kinematics, dynamics, controls, sensing, and computer vision
  - Official course description: [eecs.berkeley.edu/Courses/EECS106A](https://eecs.berkeley.edu/Courses/EECS106A)
- Two Sigma • Research Intern**  
Tensorflow, Python, Apache Spark / May 2018 - August 2018
- Developed, trained, and scaled deep reinforcement learning agents for financial applications
  - Focus on self-play, Q-learning, actor-critic methods, & paradigms for distributed training
- Amazon Lab126 • Hardware Engineering Intern**  
Cadence Orcad, C++, Python, AWS / May 2017 - August 2017
- PCB design, firmware development, and test automation for Lab126 R&D projects
  - Power draw and UART + I2C + SPI communication diagnostics, AWS integration
- Savioke • Robotics Intern**  
Python, C++, Javascript, HTML, CSS, ROS / June 2014 - August 2016
- Built and deployed robot interfaces using Meteor, node.js, and ROS
  - Designed and built systems for computer vision-based localization ground truthing
- Publications**      **“Quasi-Direct Drive for Low-Cost Compliant Robotic Manipulation”**  
D Gealy, S McKinley, **B Yi**, P Wu, P Downey, G Balke, A Zhao, M Guo, R Thomasson, A Sinclair, P Cuellar, Z McCarthy, and P Abbeel. *Under review for ICRA 2019.*
- “Robust and Low-Cost Gripper Design for AI-Based Robotic Manipulation”**  
M Guo, P Wu, **B Yi**, S McKinley, D Gealy, and P Abbeel. *Under review for ICRA 2019.*
- Leadership**      **IEEE Student Branch • President** / August 2016 - Present
- Lead UC Berkeley's largest EE undergraduate association (~200 members)
  - Developed and teach *EE198 Micromouse*, a hands-on robotics survey course that covers concepts like basic microcontroller programming, sensing, state estimation, and AI
- 3D Modeling Club • Vice President** / August 2015 - Present
- Space Technologies @ Cal • Senior Adviser** / August 2017 - Present
- Upsilon Pi Epsilon (CS Honor Society) • Publicity** / January 2017- Present
- Skills**      **Software** / Python, C++, C, Javascript, HTML/CSS, Java, ROS, Tensorflow, Node.js
- Tools** / Altium, OrCAD, Solidworks, Inventor (Certified Professional #n5JL-XVzH)
- Coursework** / Machine Learning, Computer Vision\*, AI, Neural Networks, Robotics, C++, Discrete Math, Probability, Algorithms, Data Structures, Computer Architecture, Operating Systems, Security, Networks, Circuits, Linear Systems\*, Control of UAVs (\*graduate level)