

AVA CHEN

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EDUCATION

Columbia University <i>Ph.D in Mechanical Engineering</i> <i>Advisor: Matei Ciocarlie</i>	2019 - 2024 (expected) <i>New York, NY</i>
Massachusetts Institute of Technology (MIT) <i>B.S. in Mechanical Engineering</i> <i>Thesis: "Effectiveness of Active Cooling on Torque Performance for Prosthetic Applications"</i>	June 2017 <i>Cambridge, MA</i> <i>GPA: 4.3/5.0</i>

HONORS

Columbia University Presidential Fellowship	2019 - 2023
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PUBLICATIONS

Cervantes T., Byun W., **Chen A.**, Kim K., Nealon K., Connor J., Slocum A. "A Device for Quantitative Analysis of the Thumb Ulnar Collateral Ligament". ASME. Frontiers in Biomedical Devices, *2018 Design of Medical Devices Conference*. (2018).

DEPARTMENTAL & COLLOQUIA TALKS

"How jumping spiders use silk to orient themselves in midair." Bauer Forum. Harvard, Cambridge MA.	Oct 2018
"How Jumping Spiders Jump." CEE 35th Anniversary Celebration. Broad Institute, Cambridge MA.	Oct 2018

RESEARCH & WORK EXPERIENCE

Columbia Dept. of Mechanical Engineering, Robotic Manipulation & Mobility Lab <i>Graduate Researcher with Dr. Matei Ciocarlie</i>	2019 - present
Harvard Dept. of Organismic & Evolutionary Biology, Shamble Lab <i>Research Assistant with Dr. Paul Shamble</i>	2017 - 2019
Dephy, Inc. <i>Mechanical Engineering Intern</i>	Summer 2017, 2018
MIT Media Lab, Biomechatronics Group <i>Undergraduate Researcher with Dr. Hugh Herr, Arthur Petron, & Matt Carney</i>	2013 - 2017
Apple Inc. <i>Product Design Validation Engineer Intern</i>	Summer 2016
Formlabs <i>Mechanical Engineering Intern</i>	Summer 2015
Cardiovascular Innovation Institute & Christine M. Kleinert Institute <i>Research Intern with Dr. Nolan Boyd & Dr. Christina Kaufman</i>	2012 - 2013

TEACHING EXPERIENCE

Academic	
Teaching Assistant, Columbia MECEE4602 - Introduction to Robotics	Fall 2020
Lab Assistant, Harvard LS50 - Integrated Science	Spring 2018, Spring 2019
Extracurricular	
Mentor and Teaching Assistant, Research Science Institute	Summer 2014
Teaching Assistant, Bellarmine University Summer Youth Camps	Summer 2012, Summer 2013

SERVICE

Volunteer, Adaptive Climbing Group NY	2019
Question Writer, USA Biolympiad (USABO)	2019

RESEARCH STUDENTS SUPERVISED

Undergraduate Students (ROAM Lab)

Kathryn G. Mitchell	2020 - present
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Undergraduate Students (Shamble Lab)

Frederick Horne	2019
Rowen VonPlagenhoef	2019
Eliot Burnes	2018 - 2019
Henry Burnes	2018 - 2019
Lincoln Sorscher	2018

SIDE PROJECTS

Untethered Gait Tracking for Rehabilitation

2018 - present

Collaboration with FIGUR8, Inc. to use their wearables platform for monitoring gait trends during self recovery & long-term effects of rehabilitation post knee-reconstruction surgery.

East Campus Roller Coaster

2015

Headed design, calculations, construction, and operation of the 2015 record-breaking wooden roller coaster.

Formed and led team of students to complete \$15,000 construction project in 8 days.

Unofficial Guinness World Record holder for Steepest Wooden Roller Coaster.

MIT 2.017/1.015 - Design of Electromechanical Robotic Systems

2015

Jet-propelled kayak with autonomous heading control.

Team honorable mention, DeFlores Mechanical Engineering Competition.