AVA CHEN

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EDUCATION

Columbia University **2019 - present**
Ph.D in Mechanical Engineering *New York, NY*
Advisor: Matei Ciocarlie

Massachusetts Institute of Technology (MIT) **June 2017**
B.S. in Mechanical Engineering *Cambridge, MA*
Thesis: "Effectiveness of Active Cooling on Torque Performance for Prosthetic Applications" *GPA: 4.3/5.0*

HONORS

Columbia University Presidential Fellowship **2019 - 2023**

PUBLICATIONS

Meeker, C., Fraser, M., Park, S., **Chen, A.**, Weber., L.M., Miya, M., Stein, J., & Ciocarlie, M. "Semi-Supervised Intent Inferral Using Ipsilateral Biosignals on a Hand Orthosis for Stroke Subjects". In *Robotics and Automation (ICRA), 2021 IEEE International Conference on.* IEEE. (2021). Manuscript Under Review.

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 **2019 - present**
Graduate Researcher with Dr. Matei Ciocarlie

Harvard Dept. of Organismic & Evolutionary Biology, Shamble Lab 2017 - 2019
Research Assistant with Dr. Paul Shamble

Dephy, Inc. Summer 2017, 2018
Mechanical Engineering Intern

MIT Media Lab, Biomechatronics Group 2013 - 2017
Undergraduate Researcher with Dr. Hugh Herr, Arthur Petron, & Matt Carney

Apple Inc. Summer 2016
Product Design Validation Engineer Intern

Formlabs Summer 2015
Mechanical Engineering Intern

Cardiovascular Innovation Institute & Christine M. Kleinert Institute 2012 - 2013
Research Intern with Dr. Nolan Boyd & Dr. Christina Kaufman

Research Science Institute (RSI) at MIT Summer 2012
Research Intern with Arthur Petron

TEACHING EXPERIENCE

Academic

Teaching Assistant, Columbia MECE E4602 - Introduction to Robotics — **Fall 2020**
Lab Assistant, Harvard LS50 - Integrated Science — Spring 2018, Spring 2019

Extracurricular

Research Mentor and Teaching Assistant, Research Science Institute (RSI at MIT) — Summer 2014
Teaching Assistant, Bellarmine University Summer Youth Camps — Summer 2012, Summer 2013

SERVICE

Extracurricular Service

Mentor, Women in Science at Columbia (WISC) — **2020 - present**
Judge, MIT Mechanical Engineering Research Exhibition — 2020
Volunteer, Adaptive Climbing Group NY — 2019
Question Writer, USA Biolympiad (USABO) — 2019
Volunteer, Research Science Institute (RSI at MIT) — Summers 2015 - 2018
Judge, Sweden Research Academy for Young Scientists (RAYS) — Summer 2015

Professional Societies: SWE

RESEARCH STUDENTS SUPERVISED

Undergraduate Students (ROAM Lab)

Ciara Little — **2020 - present**
Katherine O'Reilly — **2020 - present**
Katelyn G. Mitchell — **2020 - present**

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, DeFlorez Mechanical Engineering Competition.