AVA CHEN

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EDUCATION

Columbia University — **2019 - 2024 (expected)**
Ph.D in Mechanical Engineering — *New York, NY*
Advisor: Matei Ciocarlie
◇ Columbia University Presidential Fellow

Columbia University — **February 2021**
M.S. in Mechanical Engineering – GPA 3.2/4.0 — *New York, NY*

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

PUBLICATIONS

Chen, A., Winterbottom, L., Park, S., Xu, J., Nilsen, D.M., Stein, J., & Ciocarlie, M. "Thumb Assistance Via Active and Passive Exotendons in a Robotic Hand Orthosis for Stroke." Submitted to *Robotics and Automation (ICRA), 2022 IEEE Intl. Conference on.* IEEE. (2022).

Chen, A., Winterbottom, L., O'Reilly, K., Park, S., Nilsen, D.M., Stein, J., & Ciocarlie, M. "Design of Spiral-Cable Forearm Exoskeleton to Provide Supination Adjustment for Hemiparetic Stroke Subjects." Submitted to *Robotics and Automation (ICRA), 2022 IEEE Intl. Conference on.* IEEE. (2022).

Xu, J., Meeker, C., **Chen, A.**, Winterbottom, L., Fraser, M., Park, S., Weber, L.M., Miya, M., Nilsen, D.M., Stein, J., & Ciocarlie, M. "Semi-Supervised Intent Inferral to Control a Powered Hand Orthosis for Stroke." Submitted to *Robotics and Automation (ICRA), 2022 IEEE Intl. Conference on.* IEEE. (2022).

Chen, A., Kim, K., & Shamble, P.S. "Rapid mid-jump production of high-performance silk by jumping spiders". *Current Biology* (2021). In Press.

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).

RESEARCH & WORK EXPERIENCE

Columbia Dept. of Mechanical Engineering, Robotic Manipulation & Mobility Lab — **2019 - present**
Graduate Researcher with Dr. Matei Ciocarlie — *New York, NY*

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

Dephy, Inc. — Summer 2017, 2018
Mechanical Engineering Intern — *Maynard, MA*

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

Apple Inc. — Summer 2016
Product Design Validation Engineer Intern — *Cupertino, CA*

Formlabs — Summer 2015
Mechanical Engineering Intern — *Somerville, MA*

TEACHING EXPERIENCE

Teaching Assistant, Columbia MECE E4602 - Introduction to Robotics — Fall 2020

Lab Assistant, Harvard LS50 - Integrated Science — Spring 2018, Spring 2019

SKILLS

Hardware Tools — Mill & Lathe, CNC Router, Laser Cutter, Waterjet, FDM/SLA 3D Printing, SMD Soldering/Rework, PCB Layout, Instron, Woodworking Tooling

Software & Languages — Python, C++, Matlab, ROS, Altium, Eagle, Solidworks, NX, Rhino, LabView