Christie Capper

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Education

Columbia University
Candidate for MS in Mechanical Engineering, Control Systems and Robotics, GPA 3.8/4.0 **June 2017**
BS in Mechanical Engineering, GPA 3.8/4.0 **May 2016**

Claremont McKenna College **May 2014**
BA in Economics with a Sequence in Scientific Modeling and Computing, GPA 3.7/4.0

Experience

Boeing Space & Intelligent Systems Satellites Intern, El Segundo, CA **June 2016-August 2016**

- Worked with the Solar Array, Guidance, Navigation & Controls, Electronic Products, and Payload teams:
  - Solar Array and Guidance, Navigation & Controls team: Worked on new solar panel deployment sequence. Performed torque and power tests.
  - Electronic Products: Created conceptual designs; Produced engineering drawings. Performed circuit board layout and generated schematics. Made timing diagrams for digital signals.
  - Payload Layout: Developed vibration test for new support structure.

Creativity Inc. Additive Manufacturing Engineering Intern, Redwood City, CA **May 2015-August 2015**

- R&D, assembly and testing of prototypes to support the development and manufacturing of a consumer-friendly 3D printer line targeted for 2017 introduction in national retailers.
- Supported the development of the product's integrated systems, which used a revolutionary approach to the robotics, mechanisms, controls and manufacturing assembly.
- Designed and 3D printed a variety of STL files to test an array of competitive printers and materials from leading manufacturers and crowd-sourced start-ups.

Creative Machines Lab Research Assistant, Columbia University **September 2016-Current**

- Created infrastructure and worked to build open-source robot aimed to use deep machine learning methods to self model to teach itself to walk and become aware of its surroundings.
- Uses input from sensors such as a camera and an Inertial Measurement Unit.

Tesla Motors Intern, Palo Alto, CA and Product Specialist, New York, NY **May 2014-May 2015**

- Intern at the corporate offices: Worked with engineers from battery, charging, and powertrain teams explain functionality and benefits of the company's technology in a new corporate product guide. Created internal website for global sales and delivery teams using HTML, CSS, Javascript and Sharepoint.
- Product Specialist in the New York showroom: Provided technical information to customers about Tesla vehicles, including their electric powertrain, charging, battery technology, and driver assist features.

Graphene Research Assistant, Columbia University **February 2015-May 2016**

- Grew graphene onto nickel and copper substrates with Chemical Vapor Deposition.
- Worked with Nanoscribe to create nanoscale microlattices to make 3-dimensional graphene structures.

Battery Research Assistant, Columbia University **December 2015-June 2016**

- Designed, created, and tested a 3D printed Vanadium flow battery

United Nations FAO Hydropower Development Intern, Rome, Italy **June 2013-August 2013**

- Created report on new technology, including turbine designs and fish ladders, aimed to maximize electricity generated from hydro-development projects, while minimizing impact on the ecosystem.
- Conducted research with energy companies and members of the UN.
- My findings were published in annual Food and Agriculture Organization Fisheries and Aquaculture report.

Center for Writing and Public Discourse Consultant, Claremont McKenna College **August 2012-May 2014**

- Assisted students with every stage of the writing process, including Senior theses, essays and applications.

Skills

Computer: Matlab, R, Creo, Java, Python, AutoCAD, Roboteq, Stata, HTML, CSS, LaTeX, G-Code, Raspberry Pi
Relevant Coursework: Machine Learning, Computer Vision, Classical Control Systems, Digital Control Systems, Digital Signal Processing, Robotics, Signals & Systems, Intro to Human Space Flight, Machine Design, Digital Manufacturing, Econometrics, Energy Sources & Conversion
Languages: Spanish (Intermediate), Hebrew (Intermediate), German (Beginner)