Clementine Mitchell

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Education

Massachusetts Institute of Technology **August 2014 to June 2018**

Bachelor's Degree in Aerospace Engineering *Cambridge, MA*

Relevant Coursework: Differential Equations; Mechanics; Fluids; Thermodynamics and Propulsion; Signals and Systems; Statistics and Probability; Dynamics; Principles of Automatic Control; Feedback Control; Human Systems Engineering; Robotics: Science and Systems; Aerospace Materials and Structures; Heat Transfer; Precision Machine Design; Space Systems Engineering

Relevant Experience

Radia Inc. **January 2019 to present**

Mechanical Systems Engineer *Boulder, CO*

- Analyzed the feasibility of the Hydraulic System design and implementation: power requirements, weights and flows.
- Created a thermal analysis tool to evaluate the expected temperature gradients during flights.

Terrafugia **September 2018 to December 2018**

Hybrid Systems Engineer *Woburn, MA*

- Designed (in SolidWorks), manufactured (using mills, 3D printers and lathes), assembled and tested a mock wing-folding mechanism.

MIT NECSTLAB **February 2018 to June 2018**

Undergraduate Researcher *Cambridge, MA*

- Researched the growth of carbon nanotubes (CNTs) on dry unidirectional carbon fibers using CVD.
- Tested the material properties to evaluate the feasibility of using CNT-reinforced carbon fibers as a novel aerospace material.

MIT Space Systems Lab **September 2017 to June 2018**

Undergraduate Researcher – REIFSAT Structures Team *Cambridge, MA*

- Developed and designed a scaled Dynamics and Controls test bed to assess the feasibility of using a reduced-area aperture mirror to reduce cost and complexity yet retain resolution performance relative to a circular aperture system for an imaging satellite.

NASA – Jet Propulsion Laboratory **August 2017 to October 2017**

Visiting Student Researcher – Extreme Environment Robotics Group *Pasadena, CA*

- Designed a robotic canister insertion mechanism for the Mars Sample Return mission and built a prototype for use on the Mars2020 test-bed.

Lockheed Martin **June 2017 to August 2017**

Technical Co-op – Modeling and Simulation Team *Ampthill, UK*

- Implemented and evaluated various methods for processing Big Data, including the use of GPUs and the use of parallel cores through both implicit multi-threading and explicit parallelization to establish a set of recommendations for the analysis team for when the vehicle goes to trials.

MIT Man Vehicle Lab **June 2015 to May 2017**

Undergraduate Researcher / Lockheed Martin Undergraduate Research and Innovation Scholar *Cambridge, MA*

- Helped to devise a simulation using Python and Blender for subjects to operate a robotic arm in a virtual reality environment, using Oculus Rift Virtual Reality goggles in order to conduct a research project evaluating the effect of environment presentation on subjects' ability to operate a robotic arm using gesture and joystick control.

Activities and Skills

- Activities: Climbing (rock and ice) and Mountaineering – have climbed El Cap and have several first ascents in the Utah desert; Running – Ultrarunning, MIT Varsity Track and Field and Cross Country Team (five time varsity letter winner, All New England Team, Academic All-Conference Team, All-Conference Team); Jazz Composition; Robotics; Sailing (sailed across the Atlantic Ocean in a team of six); Cycling (biked a home-made tandem across the US)
- Skills: MATLAB, Simulink, Python, LabView, SolidWorks, CATIA V6, FEA, Mill, Lathe, 3D Printing