Georgia Burr Crowther

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Mission Statement

I am a hardware-focused robotics engineer passionate about sustainability, equity, and the potential of new technologies on and off planet Earth. I love to work across disciplines and on projects with a tangible impact.

Professional Experience

Lead Robotics Engineer **Feb 2022 – Apr 2023**
Denizen, Inc

- Built, programmed, and managed industrial robot arm and peripheral hardware for large format advanced manufacturing (LFAM)
- Designed and printed 3D printed dwellings including fully-functional remote work "pod" and full bathroom unit
- Wrote RAPID code generator to convert G-code instructions for ABB robot arm

Robotics Hardware Engineer **May 2019 – Jan 2022**
ProtoInnovations, LLC

- Designed, built, and field-tested experimental rover wheels for SBIR program in collaboration with NASA centers
- Developed innovative mechanisms and technologies for sensing wheel performance and actively adjusting wheel properties using shape memory materials
- Performed wheel testing and validation using custom hardware designed in-house for NASA centers

Mechanical Engineer **Summer & Winter 2013, May 2014 – Feb 2017**
Social Bicycles/JUMP Bikes

- Designed mechanical and electrical sub-systems for public bicycles and kiosks for large-scale production
- Coordinated manufacturers, assembly houses, component supply chains, and customers to deploy outdoor POS kiosks and other bike infrastructure in over a dozen cities

Projects and Research

Tensegrital Wheel for Enhanced Surface Mobility – Researcher **May 2018 – May 2019**
Carnegie Mellon University, Advisor: Dimitrios Apostolopoulos

- Explored unique wheel geometries that mimic the properties of variable pressure pneumatics through tensegrital design and minimal actuation for planetary exploration
- Researching analytical methods for devising and controlling actuated stable tensegrity

Multi-Modal Landmine Detection – Robotics Researcher **Sep 2017 – May 2018**
Carnegie Mellon University, Advisors: Dimitrios Apostolopoulos, John Dolan

- Developed and tested low-cost, automated platform for detecting and classifying buried landmines
- Designed and built actuation hardware and power distribution electronics for multi-modal sensing system

Cornell Mars Rover Project Team – Team Lead, Systems Engineer **Sep 2011 – Jun 2014**
Cornell University, Advisor: Ephrahim Garcia

- Systems engineer and leader of interdisciplinary team of 40 students competing in the University Rover Challenge
- Designed and manufactured robotic arm, claw, and chassis components

Education

Carnegie Mellon University – Robotics Institute Pittsburgh, PA
Master of Science in Robotic Systems Development (MRSD) – GPA 4.00 **May 2019**
Cornell University – College of Engineering Ithaca, NY
B.S.E. in Mechanical Engineering – GPA 3.53, 2013 Kessler Fellow **May 2014**

Publications

- Tensegrital wheel for enhanced planetary surface mobility: Part 1 - design and evolution - https://doi.org/10.1016/j.jterra.2021.11.008
- Tensegrital wheel for enhanced planetary surface mobility: Part 2 - performance assessment of a ruggedized, double-layer tensegrital wheel - https://doi.org/10.1016/j.jterra.2021.11.007

Skills

Hardware Design Tools: Fusion360 · SolidWorks · Rhino/Grasshopper · ANSYS · EAGLE
Manufacturing: Rapid Prototyping · Manual/CNC Machining · MIG/ TIG Welding · PCB Design
Programming: Python · MATLAB · RAPID · C · C++ · HTML/CSS
Other: Project Management · Leadership · Conversational Spanish

Leadership

Board Member of Prototype PGH · Pre-Incubation Bootcamp @ Ascender

Interests & Hobbies

Sketch Comedy · Cycling and Bike Repair · Gardening · Piano and Fiddle