# Georgia Burr Crowther

she/her/hers · georgiac.github.io · linkedin.com/in/georgia-crowther · 908-343-6848 · Pittsburgh, PA

## 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