

# Prabhat Adhikari

421 Knoedler Rd, Unit 3  
Pittsburgh, PA 15236  
(412) 330-7120

[pra22@pitt.edu](mailto:pra22@pitt.edu)  
[pra22.github.io](https://github.com/pra22)  
[/in/prabhat-ad](https://github.com/pra22/in/prabhat-ad)

---

## EDUCATION University of Pittsburgh, Swanson School of Engineering

Bachelor of Science in Mechanical Engineering, 2019

GPA 3.83/4.00

## SKILLS

**Software:** SolidWorks, ANSYS, Fusion 360, Matlab and Simulink, KiCAD, Microsoft Office

**Computing:** Arduino, Python, C (Intermediate), VBA (Intermediate), HTML/CSS

**Other:** Laser cutting/engraving, 3D printing, Soldering, PCB design, Composite layups

## EXPERIENCE

### Mechanical Engineering Intern, Volunteer

Summer 2019

CubeRover, Carnegie Mellon University

- Conducted material selection studies and determined the final materials for seals rated for the lunar thermal-vacuum environment
- Developed a manufacturing plan for the radiator and motor seals for a 2 kg lunar rover
- Created a preliminary design of an active suspension for future lightweight 4-wheel planetary rovers, offering potential mass savings of up to 25% over traditional six-wheel rocker-bogie designs

### Lead Payload Engineer

October 2018 to September 2019

Pitt Rocketry Team

- Led the hardware and software development, prototyping, testing and integration of an autonomous rover deployed from a high-powered rocket for the NASA Student Launch competition
- Created and improved the CAD models of the rover and its deployment system to optimize for manufacturability, strength and weight. Resulted in key changes to design, including a weight saving of over 40% from the initial design
- Designed a Printed Circuit Board to integrate the power system and the sensor + actuator suite
- Wrote the embedded software to achieve autonomous driving, radio communications and remote sample collection

## PROJECTS

### Product Development and Sales

July 2019 to present

- Design, manufacture and sales of a consumer-grade electronic device (ionizing radiation monitor) with modern hardware and software features
- Project featured on Hackaday and Hackster.io tech news blogs
- 20+ units sold with sales constrained by production rate; current demand-based short-term potential value over \$6000
- Gained experience in product realization, mechanical and electronic design, manufacturing process development, and industry standards

### Senior Design Project: High Temperature Sintering Process Control Setup for Additive Manufacturing of Materials

- Developed CAD models, conducted structural FEA, and had components machined for a sintering process control setup to be used in metal additive manufacturing
- Using thermal Finite Element Analysis, designed and optimized a cooling fin heat sink that increased the operational temperature limit by 250°C, enabling the sintering of higher temperature alloys

Other personal and school projects include an automatic wire cutter, a radiation dose calibration device, and more.

Please see my portfolio site ([pra22.github.io](https://github.com/pra22)) for information about my latest major projects.