Prabhat Adhikari

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EDUCATION

University of Pittsburgh Swanson School of Engineering
Bachelor's in Engineering, Mechanical Engineering, 2019 — Cumulative GPA 3.91/4.00
Swanson School of Engineering Dean's List

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, Basic vehicle maintenance

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 the 2 kg lunar rover
- Created a preliminary design of an active suspension for future lightweight 4-wheel planetary rovers, offering a potential mass savings of up to 25% over traditional six-wheel rocker-bogie designs

Lead Payload Engineer — October 2018 to April 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
- Designed a Printed Circuit Board to house the power system and the sensor + actuator suite
- Wrote the embedded software to achieve autonomous driving, radio comms and sample collection

PROJECTS

Product Development and Sales (Personal Project)

- Design, manufacture and sales of a consumer-grade electronic device (ionizing radiation monitor) with modern hardware and software features
- 20+ units sold with sales constrained by production rate, received preliminary contract for delivery of 50 units to an organization
- Demand-based short term potential value over $6000
- Project featured on Hackaday and Hackster.io tech news blogs
- Gained experience in product realization, customer discovery, mechanical and electrical design, manufacturing, and programming for IoT

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

- Developed CAD models, conducted structural and thermal Finite Element simulations, and had components machined for a sintering process control setup used in metal additive manufacturing
- Applied results of the simulations to design and optimize a cooling fin heat sink for the furnace

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)** for my latest major projects.