Pruthvi Banginwar

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY **08/17/2018 – 05/19/2022 (Expected)**
B.S. Engineering Physics, Minors: Materials Science & Engineering
GPA: 3.70/4.3, Dean's List: Fall 2018, Spring 2019, Fall 2019, Spring 2021

Jacobs University, Bremen, Germany – Study Abroad **02/03/2020 – 05/31/2020**

Technical Coursework: Honors Intro Physics Sequence, Optics, Statistical Thermodynamics, Mathematical Physics (Complex Analysis, Signal Processing), Analytic Mechanics, Nanoscience/Nanotechnology, Electronic Circuits & Microelectronics, Computer Science, Statistics, Mechanical Properties of Materials, Kinetics & Diffusion, Materials Chemistry, Wireless Communications, Fluid & Continuum Mechanics, Intermediate Electromagnetism, Electrodynamics, Solid State Physics, Computational Physics

Other Coursework: Intro Micro/Macro Economics, Intro Psychology, German, Environmental & Resource Economics

WORK AND ENGINEERING EXPERIENCE

Nanosystems Intern, Lockheed Martin Space, Billerica, MA **06/07/2021-Present**

- Develop and characterize optical films using Atomic Force Microscopy and Scanning Electron Microscopy
- Review literature to select materials and design experiments for high temperature electronics
- Perform tests and design adjustments to flexible RF circuits
- Collaborate with group of 5 interns to research and develop new ideas for Joint All Domain Operations (JADO) systems

Reliability Engineering Intern, Lockheed Martin Rotary & Mission Systems, Moorestown, NJ **06/01/2020-12/04/2020**

- Develop a prototype model for calculating inherent system availability and prioritize maintenance repairs in MATLAB
  - Researched queueing theory, prioritized ship repairs, and developed shortcuts in code to exponentially reduce computation time.
  - Wrote white paper detailing the model, obtained and implemented feedback, and submitted for internal publication.
- Worked with Readiness and Reliability, Maintainability, and Availability teams and gave weekly progress reports.
- Led a team of 10 interns through a Systems Engineering design and implementation process – Created Proposal, Operational Diagrams, Trade Studies, Budgeting and Work Schedules, and presented design to Customer

RESEARCH EXPERIENCE/PROJECTS

Honors Waves & Thermal Physics Project Lab – Modeling XRD with Sound and Gumballs, Cornell University, *Team Leader*

- Designed Experimental set up and successfully led group members to maximize efficiency and present findings
- Performed acoustical analysis to develop normalized intensity and diffraction patterns of sound through macroscopic lattice

Archer Lab, Chemical Engineering, Cornell University, Ithaca, NY, *Undergraduate Researcher* **Sep. 2018-Jan. 2020**

- Explored dependence of particle deposition into 3D carbon matrices on flow properties
- Investigated rheological properties of graphene slurries and extracted trend data for technical presentation
- Independently design and test cell batteries with novel architectures for optimized cost and efficiency, achieving one of the highest Coulombic Efficiency values in the lab for a coin cell battery

Gundlach Group, Chemistry & Physics, University of Delaware, *Summer Research Scholar/REU* **06/09/2019-08/16/2019**

- Synthesized Ga_2O_3 nanowires through Chemical Vapor Deposition in order to advance affordability of solar power
- Characterized photoelectric and mechanical properties of nanowires through Electron Microscopy and UV/Vis and Transient Absorption Spectroscopy
- Reviewed literature on semiconductor nanotechnology and gallium chemistry to resolve synthesis issues.
- Presented findings in an Undergraduate Research Symposium comprising over 500 projects from various fields

LEADERSHIP EXPERIENCE & COMMUNITY INVOLVEMENT

Cornell Outdoor Education, Ithaca, NY, *Outdoor Educator – Bike Staff* **Feb. 2021 – Present**
Cornell Physics Society/ExP Society, Ithaca, NY, *Peer mentor* **Sep. 2020 – Present**
Cornell Outing Club, Ithaca, NY, *Backpacking Trip Leader* **08/18/2019-08/24/2019**
Cornell '23 Incoming Class, *Volunteer Engineering Peer Advisor and Moderator* **12/09/2018-09/15/2019**

SPECIALIZED SKILLS

Computer Skills: MATLAB, Java, Audacity, Mathematica, Microsoft Office Suite, Powerpoint, Statistical Analysis
Technical & Research Skills: Circuit Design, Oscilloscope, Digital Logic, Electron Microscopy (SEM, TEM), Atomic Force Microscopy (AFM), Materials Synthesis & Characterization, Independent Research, Experimental Design, Experimental & Physical Modeling, Mathematical Methods, Signals
Soft Skills: Analytical Problem-Solving, Algorithmic thinking, Organizational Team Leader, Collaborative, Sustainable Practices, Public Speaking, Presentations, Attention to Detail, Communication, Flexible, Open-minded
Foreign Languages & Multicultural Living: German (advanced); Marathi (fluent), Norwegian (beginner), Spanish (beginner)
Language House Fall 2019, Study Abroad Experience in Bremen, Germany

CAMPUS INVOLVEMENT

Cornell Nordic Ski Racing Team, *Treasurer, Athlete* **Sept. 2018-Present**
Cornell Cycling Club, *Athlete* **Mar. 2019-Present**
Cornell Rowing Club, *Athlete* **Apr. 2021-Present**
CU Jazz Repertory Ensemble, *Bass Trombone* **Spring 2019**