

Wilson Moyer

WilsonMoyer.com | | www.linkedin.com/in/wilsonmoyer

EDUCATION

Princeton University - Bachelor of Science and Engineering in Mechanical Engineering – Graduating June 2027
GPA: 3.98 (out of 4.00)

Classes: Engineering Design, Engineering Dynamics, The Anthropology of AI, Computing Systems

Extracurriculars: Engineers without Borders Project Manager, Action Center Volunteer, Robotics Club Wall-E Mechanical Team Lead, Beekeeping Club

EXPERIENCE

Solar Energy Research Institute of Singapore (SERIS) *Engineering Research Intern* – Summer 2025

- Developed code for characterizing the efficiency of aesthetic Building Integrated Photovoltaics
- Conducted collaborative laboratory research to characterize solar cells
- Conducted an internal presentation to demonstrate project effectiveness

NOAA National Centers for Environmental Information *Research Software Developer* — Summer 2024-Present

- Designed code framework to download and compile 5 years of satellite data and identify geomagnetic events
- Implemented a Runge-Kutta Integrator to trace the Earth's magnetic field lines down to 1 cm precision
- Developed field-line tracing algorithm with $O(n)$ time cost, 130x faster than brute-force method
- Compiled results to publish a scientific journal paper

NASA Hunch *Contract Engineer* – August 2022-May 2023

- Engineered, fabricated, and tested a prototype collapsible parabolic mirror for use on the moon
- Coded a program in Java to demonstrate that a scaled version of the prototype would have a mass of 6.34 kg and a power output of 16 times larger than the NASA-set quota
- NASA has approved the mirror for further design which will ultimately culminate in lunar deployment

Solar Power Forecasting for Energy Storage Research *Independent Research Project* – June 2022-May 2023

- Engineered, fabricated, and tested a sun-tracking device with Raspberry Pi to record photovoltaic data for 15 days
- Coded a neural network from scratch without the use of Python Machine Learning libraries to forecast changes in solar power output with a median error of under 25% (down from starting error of over 4,000%)
- Wrote Python code to parse and process 5,000 image and solar panel power output data points

NASA Ames Research Center *Research Intern* – Summer 2022

- Published an 18-page NASA paper detailing a proposal for drone-facilitated drought management
- Prototyped a 3D drone design in Blender for the culmination of the research paper
- Designed a drone with a 90 km range equipped with hyperspectral, LiDAR, and thermal sensors
- Evaluated the potential impacts of the drone in agricultural and urban contexts

IX Power *Engineering Intern* – Summer 2022

- Engineered a bike-powered pump to provide water in Sierra Leone for irrigation and water filtration uses
 - Achieved a pump flow rate of 19L/minute
 - Wrote and published an engineering report on the process of building the bike-powered pump
 - Researched water sustainability in a published entry
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SKILLS

Python (NOAA), Data Analysis (NOAA), Circuit Analysis (Princeton), C/C++ (Princeton Computing Systems), SOLIDWORKS (Certified Associate), Experimental Design (Science Fair 2023), Prototyping and Fabrication (NASA Hunch), Soldering (NASA Hunch), Image Processing (Science Fair 2023), Simulation (Science Fair 2022), MATLAB (NOAA Internship), Raspberry Pi (Science Fair 2023), Onshape (Princeton Robotics)

AWARDS

- Princeton Shapiro Award for Academic Excellence (2024 and 2025)
- Science and Engineering Fair 2023: 10 total awards, including: NASA Earth System Science Award, and 3rd Place Physics, Chemistry, and Energy Project
- Medal of Achievement in Math and Science (Colorado School of Mines 2023)
- 3rd Place Essay (ESU Beckley Competition 2022)
- Science and Engineering Fairs 2022: 10 total awards, including (Regional) 3rd Place Best in Fair and 1st Place Physics, Chemistry, and Energy Project, (State) 1st Place Energy Project, and (International) \$48,000 Arizona State University Scholarship