Nikolai Nekrutenko

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Education

Cornell University, Ithaca, NY Aug 2021 - Present
Undergraduate pursuing a major in Physics with a minor in Computer Science

Pennsylvania State University, State College, PA Jan 2021 - May 2021
Non-matriculated student taking Calculus II, General Chemistry 1 and 2

Coursework

- Completed: Honors Mechanics and Special Relativity, Honors Electricity and Magnetism, Multi-Variable Calculus, Differential Equations, Intro to Computing Using Python
- Current Semester: Honors Waves and Thermal Physics, Linear Algebra, Objected-Oriented Programming and Data Structures

Experience

Cornell University, Student Researcher Mar 2022 - Present
Member of Professor Valla Fatemi's lab at the department of Applied and Engineering Physics. Using QCoDeS, a quantum computer data acquisition framework, to run experiments. Interfacing with equipment and sensors over VISA by developing drivers in Python. Aiding with the design of distillation refrigerators.

Cornell Blockchain, Research and Development Team Member Sep 2021 - Present
Worked on establishing a DAO for the club, helped advertise the club to attract new applicants, and assisted with club recruitment by interviewing several applicants.

The Rocket Lab Initiative, Payload Engineer Sep 2020 - Jun 2021
Prototyped a Raspberry Pi sensor payload in a team for a model rocket to assess the rocket's actual performance against that of computer-simulated models in a Pennsylvania State University outreach.

State High Model Aeronautics Club, President and Co-Founder Oct 2019 - Jun 2021
Co-founded a club focused on learning about aeronautics through the design, construction, and flight of remote-controlled model aircraft. Wrote several grants to accumulate over two thousand dollars in funding.

Pennsylvania State University, Student Researcher Jul 2019 - Aug 2019
Member of Professor Slava Rotkin's lab at the Materials Research Institute. Developed a Python program in Jupyter Lab to filter out background noise from scanning near-field optical microscopy scans.

Skills

- Fluent in: Russian, French, English
- Languages: Python, Javascript, Solidity, Shell
- Programming Tools: git, Jupyter Lab, Pandas, Vega-lite, Observable
- Website Design: Hugo, Netlify, GitHub Pages, Google Analytics
- Software: Autodesk Fusion 360, Ultimaker Cura, Blender, Adobe Photoshop, Adobe Lightroom, Adobe Premiere Pro, Davinci Resolve, OpenRocket
- Prototyping Skills: Soldering, CNC machine design and operation, CAD design and printing using SLA and FDM systems
- Misc: Arduino, Raspberry Pi, Photography, Cinematography, Drone piloting and construction

Projects

Developing MinerWrangler Nov 2020 - Apr 2021
Wrote a bundle of bash scripts that interacted with the user to automatically install and configure Ubuntu Server to work headlessly as a cryptocurrency mining server with NVIDIA graphics cards. Documented the installation process and usage guide in great detail.

Building and Maintaining a Personal Website Apr 2020 - Present
Build and regularly update my personal website using Hugo, Netlify and Google Analytics with an integrated photo gallery. Made the website gain traffic with Google Search Console

Raspberry-Pi LED Clock Jun 2018 - Aug 2021
Designed, soldered and programmed in python a functional 4-segment Raspberry-Pi clock from scratch that syncs with the atomic time servers.

Volunteer Experience - get rid of?

A Mountain Wind Martial Arts, Instructor Feb 2013 - Present

First Degree Black Belt in Tang Soo Do, a Korean Martial Art. Instruct and help younger students with proper form, technique, and on the practical and philosophical applications of the art. Currently designing and building a website for the studio.