Rohan I. Ojha

B.S. Electrical Engineering • Quantum Technology Concentration • Math Minor • Business Economics Minor
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Education

Purdue University - West Lafayette, IN, incoming Sophomore GPA: 3.97 2022-26
John Martinson Honors College, IEEE Member, QED-C Member
2022-2023 Dean's List and Semester Honors
Montgomery Blair High School (Math, Science, CS Magnet) - Silver Spring, MD WGPA: 4.78 2018-22

Coursework and Skills

- ***Quantum Science:*** Quantum mechanics, circuitry, algorithms, Qiskit, Q#
- ***Programming:*** Python, C, MATLAB, Java, R, HTML, Javascript, Bash, Final Cut Pro, Excel
- ***Engineering:*** Engineering Principles, Design Process, circuitry, LTspice, soldering, GitHub, CAD
- ***Math and Physics*:** Complex Analysis, Linear Algebra, Discrete Mathematics, Multivariable Calculus, Differential Equations, Statistics, Mechanics, Electricity and Magnetism, Quantum Physics
- ***Machine Learning:*** 2020 Certificate (94%) IBM/edX 'Machine Learning In Python: A Practical Introduction'
- ***Information Security:*** 2020 Certificate (87%) IsraelX/Tel Aviv University 'Unlocking Information Security, Part I'

Experience

- **Purdue Quantum Science and Engineering Institute Quantum Nanophotonics Lab** Feb 2023 - Present
  - Developing neural networks for identifying nanoparticles in dark field microscopy.
  - Writing automation and control software (e.g. linear actuator, power meter, variable attenuator drivers) for Hanbury Brown and Twiss experimental setup in order to assess Single Photon Emitters and optimize their fabrication.
- **Purdue Quantum Game Club** Jan 2023 - Present
  - Learned quantum circuitry Qiskit for use in simulation/research projects using quantum machines and concepts.
- **Quantum Winter School, Qubit by Qubit with Microsoft Azure Quantum** Feb 2023 - Feb 2023
  - Learned quantum mechanics, quantum circuitry, quantum algorithms, Q#, QKD (BB84), VQE, qubit technologies
- **National Institute of Standards and Technology (NIST) Physical Measurement Laboratory (PML)**. Jun 2021- Aug 2022
  - Performed research as Intern, Nanoscale Device Characterization Division
  - Controlled Scanning Tunneling Microscope (STM), used Feedback-Controlled Lithography to create dangling bonds on Hydrogen-terminated Silicon chip for atom-specific patterning of Phosphate.
  - Developed automated atom/dangling bond location and STM image lattice determination algorithms in Java for use in Atom-Based Device navigation and control software to facilitate/automate STM procedures.
  - Applied 2-dimensional Fast-Fourier-Transforms to locate patterns in STM images.
  - Awarded Montgomery Blair Magnet Science and Engineering Fair Certificate of Notable Achievement from IEEE and Optical Society of America for work at NIST.
- **Mid-Atlantic Soaring Association Airport Assistant Operations Director** 2019-22
  - Managed traffic and flight activity, formed and communicated plans of action for safety of operations, moved gliders on flightline, wing-running, kept track of instruments (e.g. radios, ballast, flags, traffic cones, tail dollies).

Awards and Honors

- **Private Pilot Glider License:** (at age 16), 46 hours in Schleicher ASK-21 (glider), awarded O'Callaghan Scholarship 2022
- **International Science and Engineering Fair (ISEF)**, 3rd Place ($1,000), Physics and Astronomy Category, awarded for work in "Periodicity Felicity", searching for binary black hole candidates. 2021
- **Debate, County-wide Public Forum:** Two-time county-wide semi-finalist (2020, 2021), Blair High School Debate Team Admin. Junior Captain (2020-2021) and Team Captain (2021-2022). 2019-22