Albert Wang

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EDUCATION

Columbia University — New York, NY
Bachelor of Science in Electrical Engineering — Aug. 2024 – May 2026
GPA: 3.81/4.0; Dean's List 2024, 2025

Bates College — Lewiston, ME
Bachelor of Arts in Physics, Minor in Philosophy — Aug. 2021 – May 2026
GPA: 3.97/4.0; Dean's List 2021, 2022, 2023, 2024

Relevant coursework: Analog Electronic Circuits, Digital VLSI, Solid-State Devices, Advanced Logic Design, Signals & Systems, Power Systems Analysis, Electromagnetics

TECHNICAL SKILLS

Circuits/Devices: CMOS, small-signal, biasing, op-amp/filter basics
EDA/HDL: Cadence Virtuoso (schematic/layout), LTspice; Verilog, VHDL; PCB CAD (Fusion 360 Electronics)
Test/Lab: Oscilloscope, DMM, bench supplies, soldering
Programming: Python, C/C++, MATLAB, Java
Languages: English, Chinese

EXPERIENCE AND PROJECTS

Hardware Security Intern (PUF/HSM) — July 2025 – September 2025
eMemory Technology Inc. — Hsinchu, Taiwan

- Mapped Thales **LunaSH**/**LunaCM** and **PKCS#11** semantics into a **PUF**-backed HSM interface framework.
- Co-authored a **SH/CM API**: partitions/roles, NTLS/STC, HA/backup/cluster, audit/time, appliance ops.
- Aligned interfaces with **FIPS 140-3** expectations and common HSM workflows; identified compliance/test points.
- Supported **prior-art** and patent landscaping to differentiate design choices.

Collegiate MEP Intern — May 2025 – July 2025
PBK Architects — Houston, TX

- Produced **NEC**-compliant panel schedules and circuiting (receptacles, lighting, power rooms) for K–12 schools.
- Learned and implemented **load calculations**, sized feeders/breakers, and balanced phases.
- Standardized **panel/circuit naming** to improve plan consistency and reviews.

Rockets Electronics Team — September 2024 – Present
Columbia Space Initiative — New York, NY

- Focused on **PCB** design and integration to achieve higher altitude launches for high-powered hybrid rockets.
- Designed a circuit with a current-limiting safety module to power avionics systems using **Autodesk Fusion 360**.

RESEARCH EXPERIENCE

NSF-REU Computational Physics Researcher — May 2024 – October 2024
Clarkson University — Potsdam, NY

- Conducted research on projection-based learning for high-efficiency and accurate photonic crystal simulations.
- Developed **MATLAB** code for various **photonic** structures, achieving a speedup of two orders of magnitude.
- Fast simulations with high accuracy for photonic crystals and quantum nanostructures enabled by a projection-based learning methodology - 2nd author (https://doi.org/10.1117/12.3028208).

Undergraduate Researcher in Neutrino Detection — May 2023 – May 2024
University of Massachusetts Amherst — Amherst, MA

- Advanced nEXO's neutrinoless double beta decay research by collaborating with UMass Amherst's team.
- Studied photon detection efficiency (PDE) of **SiPMs** in liquid xenon through experiments and simulations.
- Processed waveforms with **Python Libraries** and Geant4/Chroma, generating key plots for PDE calculations.
- Authored a 46-page report on LED performance across cryogenic temperatures and media in a kg-scale LXe setup.
- Presented findings orally at the **April American Physical Society (APS)** 2024 conference.