Andrew Cohen - Electrical Engineer

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EDUCATION

Tufts University, Electrical Engineering *summa cum laude*   *Class of 2025*
- 1590 SAT, 3.9 GPA
- National Merit Scholar, Tufts Summer Scholar, Minor in Music Engineering

EXPERIENCE

Teaching Assistant, Tufts University   **Medford MA***, 9/23–12/24*
- Built coursework in circuit design, debugging practices, digital logic, and VHDL
- Directed lab sections, held office hours, and graded assignments for class of 50+ students

Intern, RTX BBN Technologies   **Cambridge MA***, 5/24–8/24*
- Developed sFPDP transceiver SoM with Altera FPGA processor in both C and VHDL
- Procured, installed, and automated instrumentation of tabletop optics
- Performed noise analysis of optical and RF systems in laser heterodyning experiment

Researcher, Mohanty Nanophotonics Lab   **Medford MA***, 3/22–8/23*
- Managed $5000 grant for photonics research with biomedical applications
- Performed PyMeep waveguide simulations to characterize beam steering in neural probes
- Validated silicon chips on optical test bench with power, signal integrity measurements
- Showcased work as panelist at Summer Scholar's conference and in Optics Express paper

Barista, Caffé Nero   **Concord MA***, 4/21–8/21*
- Ran the coffee bar and learned valuable foam management skills

Analog Design Intern, Analog Circuit Works   **Sudbury MA***, 5/19–8/20*
- Wrote scripts to parse/automate Verilog and Verilog-A code generation
- Established foundational circuitry skills: soldering, PCB design, debugging

EXTRACURRICULAR

IEEE and IEEE-Eta Kappa Nu   **Medford, MA***, 2022-2025*
- Senior Class Representative and Music Engineering Chair
- Provided pre-professional workshops, speakers, and other resources to Tufts' student engineers

Drumming   *10+ years*
- BEATs Street Drumming Group: performed original compositions on buckets, used plastics, etc.
- Independent rock/jazz drummer at campus and community events

PROJECTS

Machine Vision on Budget FPGA   *May 2025*
- Low-power image classification with cheap chip and camera for educational purposes

Optical Waveguide Superposition Controller   *April 2025*
- Published Optics Express paper on novel theory for nanoscale optical beam steering

Audiovisual MIDI Air Hockey   *Dec 2024*
- Custom-built MIDI controller with sensors, LEDs, and Bluetooth for mixed media fun

Smack Buds: A VHDL Fighting Game   *Dec 2022*
- Retro-style fighting game on Upduino FPGA written entirely in VHDL

SKILLS: Extensive coding experience (**C,** C++, Java, Python, MATLAB); FPGAs; PCBs; Optics and photonics; Semiconductor physics; Embedded systems; Communication protocols (SPI, I2C, UART); Signal processing; Music engineering; Machine learning; Technical writing and communication; Spanish