

Quinn Mair

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EDUCATION:

- Duke University Pratt School of Engineering** Durham, North Carolina
Expected May 2027
- BSE in Electrical and Computer Engineering & Cultural Anthropology
 - Relevant coursework: nanoelectronics, computer architecture, digital design, signal processing
- George Washington High School** Denver, Colorado
Graduated May 2023
- International Baccalaureate Diploma, Valedictorian

EXPERIENCE:

- HDR, Instrumentation & Controls Intern**, Denver, CO June 2026 - August 2026
- Wrote and reviewed PLC code using Do-more designer to implement ladder logic for multiple projects
 - Drafted and reviewed process & instrumentation controls drawings for water treatment plants
 - Drafted and reviewed one-line diagrams for PLC I/O wiring for water treatment plants
- Engineers In Action, On-Site Construction Manager**, Shiselweni, Eswatini May 2025 - August 2025
- Coordinated daily activities of 40+ workers to deliver a the longest footbridge in Eswatini (128m)
 - Drafted and iterated drawings using field data and AutoCAD
 - Constructed walls, set and adjusted sag, outlined excavations, maintained tool inventories
 - Spoke in Siswati on behalf of the student team to local leadership and government at the project inauguration
 - First Duke student to be awarded Emerging Leader of the Year award at annual EIA conference
- Lunch Bunch LLC, Co-Founder**, Durham, NC May 2024 - September 2025
- Co-founder of a lunch tray startup: researched and developed an interlocking lunch tray for local schools
 - Drafted and submitted nonprovisional patent, conducted prior art search, responded to office actions
 - Awarded CFCI GoBig Grant, Duke I&E support grant x2, featured in Duke Startup Showcase
- Duke Engineers for International Development, President**, Durham, NC January 2026-Present
- Support planning, budgeting, implementation, and documentation of 4 infrastructure projects across 3 continents
 - Fundraise and allocate \$70,000+ annual budget, one of the largest among Duke student organizations
- Duke University, Teaching Assistant for EGR 105**, Durham, NC August 2025 - December 2025
- Work with 200+ students in recursion, algorithm development, python syntax, and computational methods
 - Evaluate student work and work with instructional staff to improve course policies
- Duke University, Campus Tour Guide**, Durham, NC October 2023 - Present
- Lead one-hour tours of Duke's West campus for 10-25 visitors and answer questions on a variety of topics
- Comcast, TPX Product Experience Intern**, Denver, CO May 2022 - July 2022
- Designed data management site for internal use, updated UI for software engineers, improved site aesthetics
 - Helped troubleshoot github and terminal issues across company devices
- MCA of Central Park, Head Lifeguard**, Denver, CO Summer 2021-2024
- Instructed swim lessons, coached swim teams, responded to medical emergencies, enforced safety regulations
 - Assisted with scheduling and training new lifeguards

PROJECTS

- US Patent 29/975821** December 2024
- Drafted non-provisional design patent application for interlocking lunch tray for Lunch Bunch LLC
- 32 Bit Pipelined Processor + Video Game** Fall 2025
- Built a 32 bit pipelined processor in Verilog, implementing 2s complement arithmetic, Modified Booth multiplication, a carry-lookahead adder, hazard detection, and bypassing
 - Deployed this processor to an FPGA to support an 8x8 maze tile game implemented in Verilog and MIPS
 - Continually debugged and iterated using GTKWave, Vivado, and python tools
- Audio Note Recognition Using Fast Fourier Transform** December 2024
- MATLAB project to parse and identify individual music notes in a larger file using fast Fourier transform

SKILLS AND INTERESTS

Skills: C++, MATLAB, C, LaTeX, Python, Java, Arduino IDE, HTML, CSS, MIPS, AutoCAD, Logisim, Verilog, GTKWave, Vivado, Onshape, Fusion360, KiCad, PSpice, PCB Design, Microsoft Office, Jira, Confluence, Trello, CNC
Activities: Member: Theta Tau, DukeEngage, Hoops for Troops