HEBBA MOHMAND

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EDUCATION

University of Virginia, School of Engineering and Applied Science, Charlottesville, VA   *August 2023 - May 2027*
Bachelor of Science in Computer Engineering
- Relevant coursework: CS 2100 (Data Structures and Algorithms 1), CS 2130 (Computer Systems and Organization 1), ECE 2300 (Applied Circuits), ECE 2330 (Digital Logic Design), ECE 2600 (Electronics)

PROFESSIONAL EXPERIENCE

Tutor, **America Reads (McGuffey Reading Services),** Charlottesville, VA   *January 2024 - Present*
- Deliver individualized reading instruction to K–5 students in Title I schools, using diagnostic assessments to identify learning gaps and create targeted literacy intervention plans.
- Collaborate with teachers to align tutoring sessions with Virginia SOL standards, helping improve student confidence, phonemic awareness, and reading comprehension.

PROJECTS

Class Project | Electronics, **Audio Analyzer,** Charlottesville, VA   *January 2025 - Present*
- Designed and implemented an analog audio analyzer consisting of a summing amplifier, active high- and low-pass filters, a superdiode-based peak detector, and a MOSFET-driven LED output stage for real-time pitch and volume visualization.
- Simulated individual subsystems in Multisim and integrated into a complete signal chain; validated performance and signal response using Analog Discovery 2 and real-time audio input.

Class Project | Digital Design Logic, **Simple CPU Design,** Charlottesville, VA   *September 2024 - December 2024*
- Built an 8-bit CPU with a 5-bit address bus, supporting 32 memory locations, R/W control, asynchronous reset, and synchronous clocking in VHDL 2008.
- Built and simulated full architecture in Quartus Prime, including an opcode decoder, ALU, datapath, FSM, and testbenches for RTL verification.

Class Project | Applied Circuits, **Boost Converter PCB,** Charlottesville, VA   *November 2024 - December 2024*
- Created a DC-to-DC boost converter using a 555 timer to generate a PWM signal for a MOSFET-based switching circuit.
- Performed design rule checks (DRC) for optimized signal integrity and troubleshot soldering and component issues.

ACTIVITIES & VOLUNTEERING

Treasurer & Fundraising Chair, **Taiwanese Student Association at UVA,** Charlottesville, VA   *March 2024 - Present*
- Manage all financial operations for 200+ members, including budgeting, reimbursements, dues collection, and membership records to ensure fiscal responsibility and long-term stability of organization.
- Secure funding for large-scale cultural events (500+ attendees) by collaborating with UVA's SAF Committee, drafting grant proposals, organizing fundraisers, and obtaining corporate sponsorships.

Family Head, **Peer Advising Family Network,** Charlottesville, VA   *March 2024 - March 2025*
- Oversaw a cohort of 40+ peer advisors and facilitated strong advisor-advisee relationships to support first-year APISAA students through academic, cultural, and social transitions.
- Designed and led culturally affirming events and wellness programs aimed at building community, relieving stress, and promoting academic resilience among underrepresented student groups.

Volunteer, **NOVA Resettling Afghan Families Together,** Alexandria, VA   *December 2021 - Present*
- Supported resettlement of 10 newly arrived Afghan families by furnishing homes, coordinating move-ins, and connecting with critical resources including employment, education, and transportation services to foster long-term self-sufficiency.

Programming Team Captain, **FIRST Robotics,** Springfield, VA   *August 2019 - April 2023*
- Led development of a modular, command-based robot control system in Java using WPILib and VS Code
- Managed GitHub codebase, programmed autonomous routines, integrated encoders and pneumatics, and implemented drivetrain odometry and kinematic models to optimize autonomous performance—contributing to two FIRST Chesapeake District Event wins.

SKILLS

Programming & Tools: C, Assembly, Python (Matplotlib, Pandas), Java, VHDL, HTML, CSS, LaTeX
Software & Design: Adobe After Effects, Microsoft Excel, Multisim, KiCad
Languages: English, Pashto, Dari, Farsi