

Charles Verity

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Education

Northeastern University, Boston, MA May 2027

Bachelor of Science in Computer Engineering and Computer Science GPA: 3.54

Activities & Honors: IEEE, Wireless Club, Engineers Without Borders, Dean's List, VICEROY DECREE Scholar

Relevant Coursework: Circuits & Signals, Fundamentals of Electronics, Embedded Design, Fundamentals of Networks, Computer Systems, Programming with C++ , Fundamentals of Computer Science 2, Discrete Structures, Computing Fundamentals

Queen's University of Belfast, Belfast, Northern Ireland, UK Sep 2023 – Dec 2023

Study Abroad through N.U.in Program

Berkeley High School, Berkeley, CA Jun 2023

Activities & Honors: President of Quiz Bowl Club, Fencing, BIHS Leadership, California State Seal of Biliteracy

Skills

Applications: AutoCAD, SolidWorks, MS Office, LTSpice, PSpice, OrCAD, Quartus Prime, 3D Printing

Programming: MATLAB, Python, Arduino, Java, C (Learning), C++ , UNIX/Linux (Learning), Git

Electronics: Circuit Analysis/Design, Basic Signal Processing (Oscilloscope/Signal Generator/DMM), Soldering

Languages: Mandarin Chinese

Technical Projects

16-bit CPU Simulation Jan 2025

- Designed and implemented a 16-bit CPU emulator in C, based on a defined ISA, featuring instructions such as SET, LOAD, STORE, ALU operations, and more
- Simulated CPU behavior and memory interactions, with instruction fetch, decode, and 16-bit execution

Human ECG Signal Processing and Analysis Project Nov 2024 – Dec 2024

- Designed and implemented analog circuit with an instrumentation amplifier, high-pass, and low-pass filters to process raw ECG signals
- Integrated an A/D converter for signal digitization and scaling to maximize resolution while avoiding saturation
- Applied MATLAB digital filtering techniques and FFT analysis to reduce noise and estimate heart rate variability

UN Sustainability Goal Museum Exhibit Feb 2024 – Apr 2024

- Designed and presented sustainable energy use exhibit for elementary students, utilizing AutoCAD for designs, SolidWorks prototypes, Arduino circuits, and incorporating laser cutting and 3D printing for physical models.
- Applied Kepner-Tregoe, GO-NOGO analyses, flowcharts, and BOMs, for project planning and strategy review

Employment Experience

Peer Mentor Jan 2025 – Present

Northeastern University College of Engineering, Boston, MA

- Support first-year engineering students in seminar course by managing attendance, organizing icebreakers, and facilitating discussions on academic/resume planning

Promotional Product Specialist Feb 2020 – Mar 2024

Branding Boulevard, Berkeley, CA

- Applied vinyl heat transfers to apparel and accessories, executed laser engraving for metal and glass items, and managed packaging and customization for 1000+ unit orders
- Ensured high quality presentation and brand alignment in corporate gift sets across large scale orders

Interests

Collecting coins, banknotes, stamps, vintage electronics, and video game consoles; history and trivia