

ZACHARY HILL

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EDUCATION

Northeastern University

Bachelor of Science in Electrical and Computer Engineering
Minor: Materials Science and Mathematics

Boston, MA | April 2027

GPA 3.5/4.0

WORK EXPERIENCE

Northeastern University

Tutor for Khoury College of Computer Science

Spring 2024

- Tutored students in Fundamentals of Computer Science 2 using both Kotlin and Java

North Brunswick Township Board of Education

Event Manager

July 2023 – Present

- Manage and direct a team of 8-10 Audio-Visual Technicians
- Manage the sound and lighting aspects of public and private events occurring on school grounds, including but not limited to broadcast meetings, theatrical plays, and various community events.

TECHNICAL SKILLS

C, C++, Java, Python, JavaScript, Node.js, Typescript, React, HTML, CSS, Fusion360, AutoCAD, SolidWorks, Soldering, 3D Printing (SLA/FDM), Laser-cutting, TrueNAS, Proxmox, Linux, LTSpice, Arduino, Kotlin, Excel, MATLAB

PROJECTS

Concrete Super-Capacitor (Group) – Northeastern University

Fall 2024

- Collaborated with group to research, design a custom-made super-capacitor using concrete as the main electrode
- Led designing and fabricating of the case and super-capacitor as well as the testing of its electrical properties.

RFID E.M.I.D. (Electromagnetic Interference Device)

October 2024

- A high frequency (13.56 MHz) active disruptor that produces a signal that blocks other RFID devices from receiving data.

16-Bit Calculator

January 2025

- Only using 2N2222 transistors, created a 16-bit calculator on a breadboard that is capable of addition, multiplication and subtraction.

Digital Wristwatch

December 2024

- Created a digital watch with a binary display that uses a microcontroller and a RTC to track time, in a custom 3D printed case.

Custom Lighting Console

Summer 2024

- Created various linear potentiometers, buttons, and rotary encoders are connected to an Arduino. All connected to a Raspberry Pi that hosts a web interface. Can interface with lights using the DMX-512 protocol, also capability of interfacing with ETC. consoles using OSC. Designed and built a custom 3D printed case in Fusion360.

EXTRACURRICULARS

FIRST Robotics Competition Team 25 Raider Robotics

Sept. 2019 – June 2023

Lead Electrician

2021-2023

- Led 5-7 high school students in designing and creating the electrical, motor and locomotive system for a robot each year to compete in FRC.

Lead Programmer

2021-2023

- Led 3-6 high school students in programming the robot using and team utility apps such as a Robot Tracking/Scouting Android app. Programming languages involved include: Java, C++, Kotlin

SKILLS AND CERTIFICATES

- German Proficiency: A2
- First Aid Certified: Certified by the American Red Cross in First Aid, CPR, and AED
- Boy Scouts of America: Eagle Scout

INTERESTS

Videogames, Hiking, Camping, 3D printing, Home-lab/Self-Hosting, Oboe, Reading, Lighting Design

Available July-December for full-time Internship/Co-op