

EDUCATION

Seeking a co-op for January 2024 – June 2024

- > **Northeastern University, Khoury College of Computer Sciences, Honors** Boston, MA
Candidate, B.S. Computer Science & Mathematics \\\ Physics & Chemistry Minor \\\ 3.89 GPA 2021 – 2025
- > **Holliston High School** Holliston, MA
Track/XC \\\ NHS \\\ Science Olympiad \\\ 1570 SAT \\\ National Merit Finalist 2017 – 2021




COURSEWORK AND KNOWLEDGE * := in progress

- > **Proficient Languages:** Typescript, MongoDB, React, SQL, Java, Python, Mathematica, C, Lean4, Linux, Bash
- > **Familiar Languages:** Cuda, Rust*, MATLAB, Machine Learning*, Slurm/HPC, Schrodinger Maestro
- > **CS:** Theory of Computation, Logic & Comp., Networks & Distributed Systems, Algorithms, Object Oriented Design
- > **Math:** Number Theory, Group Theory, Statistics & Stochastic Processes, Linear Algebra, Calc 3, Prob & Stats
- > **Physics:** Physics 1, Physics 2, Modern Physics, Quantum Computation and Information*
- > **Chem:** Physical Chemistry*, Organic Chemistry 1*

RESEARCH AND WORK

- > **Software Engineering Co-op @ Nth Cycle:** Metal Refining Startup Jan. 2023 – June 2023
 - o Created a Mongo-React webapp which let scientists a drag and drop library to design forms and dashboards, better standardizing data entry and enabling more powerful analysis than Excel or physical lab notebooks.
 - o Fixed IT problems in lieu of an IT department
 - o Reference: Chris Thoren
- > **Peer Tutoring:** Discrete, Fundies 1 & 2, OOD, Algo, Phys 2, Calc 3, LinAlg, Prob & Stats Sep. 2022 – June 2023
 - o Demonstrate patience and professionalism with tutees having a variety of skill levels
 - o Generate new ways to explain content
- > **Sijia Dong Lab:** Computational chemistry research group Dec. 2021 – Jan. 2023
 - o Bypass time-consuming processes and calculations using automation scripts and ML
 - o Listen and understand technical constraints and communicate progress and possible avenues for progress
- > **Internship with Town of Holliston Director of Technology:** Nov. 2020 – Feb. 2021, Apr. 2021 – May 2021
 - o Implement proper settings and software on new desktops for various town departments such as the police and the senior center
 - o Resolve problems with phones, printers, and file storage for various town employees
- > **Kitchen Worker at Hannah BG Shaw Home for the Aged:** Server, dishwasher & cook June 2020 – Aug 2021
 - o Fulfill resident requests in compliance with dietary restrictions
 - o Exhibit patience and communicate clearly in a fast-paced environment

PROJECTS * := in progress

- > **ML Excitation Model** Python, Maestro, MATLAB, Bash, TensorFlow Aug. 2022 – Jan. 2023
Identify what aspects of chloramide, flavins, and styrene influence their excitation wavelengths when they are in proximity to each other. Have written a matlab/python script that transforms the raw coordinates of each atom into more usable and interpretable features, which then can be used as input for a neural network or rounded for use in a neural network to predict excitation wavelengths and strengths.
- > **Automated Docker** Python, Maestro, Slurm, QtPy /automated_docking_script July 2022
Designed a GUI add-on and backend script for Schrodinger Maestro that automated a time-consuming and error-prone process of generating docking poses for three molecules in all permutations.
- > **N-Bullets in Racket** Racket /nbulletsrkt Apr. 2022
Rewrote a project for a Java-based course in Racket to compare the two languages. Racket was terser, easier to properly test, and (subjectively) more readable. Additional findings and opinions are in the README.
- > **Grave Finder** ReactJS, PHP, MySQL, Cloudflare, cPanel, SSL /findagravemiddleborough.ml Dec. 2020
Website to view grave data for a local cemetery preservation nonprofit. Makes use of join tables, searching, filtering, React+MaterialUI forms, an administrator login with a cooldown period after too many login attempts.