natetheadequate **Nathaniel White** natewhite345@gmail.com

Seeking a co-op for January 2023 – July 2023

Education

- **Northeastern University, Khoury College of Computer Sciences, Honors** — Boston, MA
  Candidate for a B. S. in Computer Science & Mathematics \\ Physics Minor \\ 3.87 GPA — *Aug. 2021 – Dec. 2025*
- **Holliston High School** — Holliston, MA
  Track/XC \\ NHS \\ Science Olympiad \\ SAT: 1570 \\ National Merit Finalist — *Aug. 2017 – May 2021*

Computer Knowledge

- **Web Dev**: React, MaterialUI, JavaScript, HTML/CSS, PHP, MySQL, REST API, Express, Jest, Node
- **Scientific Computing**: Lean (Formal Verification), Linux, Bash, Slurm/HPC, LaTeX, Schrodinger Maestro
- **General**: Java, Racket, Python, C, Cuda, VEX RobotC, Git/Github, Microsoft PowerAutomate, Google Apps Script

Coursework ** := in progress*

- **CS**: Object Oriented Design, Algorithms, Networks and Distributed Systems*, Logic and Computation*
- **Math**: Calculus 3, Linear Algebra, Probability & Statistics, Statistics & Stochastic Processes*, Group Theory*
- **Physics**: Physics 1, (Mechanics, Basic fluid dynamics), Physics 2 (Waves, Electricity, Magnetism)

Projects ** := in progress*

- **ML Excitation Model*** *Python, Maestro, MATLAB, Bash* Code available on request — *Aug. 2022 – Present*
  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 classification learner.
- **Automated Docker** *Python, Maestro, Slurm* /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.

Research and Work

- **Peer Tutoring:** Discrete, Fundies 1 & 2, OOD, Algo, Phys 2, Calc 3, LinAlg, Prob & Stats — *Sep. 2022 – Present*
  - Demonstrate patience and professionalism with tutees having a variety of skill levels
  - Generate new ways to explain content
- **Sijia Dong Lab:** Computational chemistry research group — *Dec. 2021 – Present*
  - Bypass time-consuming processes and calculations using automation scripts and ML
  - 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*
  - Implement proper settings and software on new desktops for various town departments such as the police and the senior center
  - 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 – Present*
  - Fulfill resident requests in compliance with dietary restrictions
  - Exhibit patience and communicate clearly in a fast-paced environment

Interests and Other Skills

- B2 Proficiency in French \\ Climate change \\ FP $\gg$ OOP \\ Running \\ Amateur cooking \\ Political economy