

# YIXIN “ELLA” GUO

Medford, MA

☎ 781-475-6456

✉ [yixin.guo@tufts.edu](mailto:yixin.guo@tufts.edu)

🌐 [Linkedin Profile](#)

🌐 [Personal Website](#)

## EDUCATION

---

### Tufts University

May 2025

*Bachelor of Science in Applied Physics and Computer Science with Minor in Studio Art*

*Medford, MA*

GPA: 3.90/4.00, Dean's List

Academic Awards: Howard Sample Prize Scholarship in Physics

**Relevant Courses:** Quantum Theory, Algorithms, Data Structures, Machine Structure and Assembly-Language Programming, Linear Algebra, Bridge to Higher Mathematics (Discrete Mathematics), Computational Physics, Intermediate Mechanics

## EXPERIENCE

---

### Tufts University, Department of Computer Science

*Medford, MA*

*Teaching Assistant for Data Structures and Intro CS*

*Jan 2023 – Present*

- Lead weekly lab to explain concepts and implementations of data structures from lectures
- Host two weekly office hours to help students debug errors and develop design plans for projects
- Develop and utilize automatic grading software in Python to assess functional correctness for 300 students

### Tufts University, Department of Physics and Astronomy

*Medford, MA*

*Learning Assistant for Intro Physics*

*Jan 2023 – May 2023*

- Led discussion sessions in a 90 students class, encourage active participation and critical thinking
- Held after-class recitations and office hours, review the lectures, and answer students' questions
- Developed pedagogy, communication, and time-management skills

## PROJECTS

---

### Personal Website [🔗](#) | HTML, CSS, JavaScript

- Designed and developed a responsive multi-page website that functions across multiple devices, including laptops, phones, and tablets
- Implemented interactive features such as draggable image slider, navigation menu, and hover effects

### N-Body Particle Simulation | Python

- Simulated the movement of an arbitrary number of particles (the N bodies) through space and time in 2 dimensions
- Plotted the positions of the particles and made a video to help with visualization

### Linux grep command | C++

- Designed and implemented a program that can search through all the files in a directory and look for a sequence of character, which behaves similarly to the unix grep program
- Dealt with large data set that has 200MB of size, 2000+ of files, and 3000+ directories, and indexing that under 30 seconds and 3GB usage of RAM

### Reverse Polish Notation Calculator | C++

- Implemented a calculator that can perform basic arithmetic calculations as well as Fibonacci sequence, factorial, and comparisons
- Made a simple interface so that the user can enter numbers and operators easily

## SKILLS

---

**Programming Languages:** C++, C, Python, JavaScript, ROS

**Developer Tools:** HTML, CSS, React, MongoDB, VS Code, LaTeX, git, GitHub

**Languages:** Mandarin, English