

# Peter C. Morganelli

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## EDUCATION

### Tufts University

Bachelor of Science in Computer Science (BSCS)

Medford, MA

Expected: May 2027

- **Relevant Coursework:** Data Structures, Algorithms Discrete Math, Game Design, Linear Algebra, Machine Structure and Assembly
- Dean's List x4

### Milford High School

Secondary Education

Milford, MA

Graduated June 2023

## EXPERIENCE

### Full-Stack Developer Intern

Medford, MA

Launch

February 2025 - April 2025

- Developed a **full-stack** AI-powered website builder from scratch at a startup company, working on back and front end development
- Created an interface for end-users to customize **generated websites** (dragging and dropping website components, etc).
- Implemented innovative solutions in a timely manner to enhance **user experience** and **functionality** while learning new technologies

### Software Developer

Medford, MA

Tufts JumboCode

October 2023 - Present

- Developed a **full-stack** inventory website for a local Somerville theater with a group of **10+** developers
- Implemented data retrieval and submission functionalities by working on **GET** and **POST** API handlers using **TypeScript**, enhancing several **React** components, and styling them with **Tailwind**
- Facilitated user content management by designing a page that enables the user to upload images into a custom carousel, detailing item information such as name, description, and filter tags while using **Figma** for design prototyping
- Conducted **unit testing** for and **quality assurance** for **10+** components, ensuring **100%** functionality and reliability for the application

### Data Structures Course Assistant | C++

Medford, MA

Tufts University

September 2024 - Present

- Evaluated and graded **150+** student submissions, assessing code **functionality**, **style**, **organization**, and **modularity**
- Held regular office hours to support **300+** students with homework assignments and course concepts
- Provided constructive feedback to **300+** students, facilitating their understanding and application of data structures principles
- Actively responded and endorsed **hundreds** of student programming questions and answers on the course Piazza forum page

### Founder and Executive Director

Medford, MA

Tufts Leadership Training Institute (LTI)

June 2024 - Present

- Successfully recruited **10+** mentors and created an intensive **8-week** mentorship program, ensuring a high-quality and organized experience
- Spearheaded all meetings, planning, funding, organization, room reservation, recruitment, and admission to the program
- Worked alongside **MIT LTI directors** to effectively establish a new student organization and abide by all guidelines of the program

## PROJECTS

### Slingshot Squires | C#, Unity, WebGL

May 2025

- Developed a 2D **Unity** [game](#) from scratch in **C#** with a team of **6 developers**, and made a promotional [website](#) to showcase gameplay
- Managed the team by setting up meetings, **delegating** tasks, **mentoring** developers, and helping **build** and **debug** features
- Built **core** slingshot **mechanics**, multi-slot enemy **pathfinding**, and keyboard mode **toggleing** using Unity's **physics** and **input systems**

### CodeClock | React.js, AWS, EC2, mongoDB, Next.js, Tailwind, VSCode API

February 2025

- Created a personalized **full-stack** VSCode Extension to allow Tufts CS students time how long they spend working on code assignments
- Developed for the JumboHack hackathon in **two days** using **React** and **Tailwind** on the frontend in a **Next** project

### Universal Machine Emulator | C, KCachegrind, GitHub

November 2024

- Engineered a program that **emulates** virtual machine code with segmented memory and dynamic allocation in **C**
- Handles programs using **32-bit** registers, taking in **14** different bit-packed instructions and running them as pseudo-programs
- Learned how to use **KCachegrind** as a profiling tool to find optimizations for the program to handle **millions** of inputs within seconds
- Optimized the program by reducing runtime by **98%** on a dataset of **millions** of instructions

### Image Compressor + Decompressor | C

October 2024

- Designed and implemented a program achieving over **40% reduction** in image file sizes using lossy compression and decompression
- Enhanced storage efficiency by **50%** using a bit-packing algorithm which optimized memory usage but preserved image quality
- Demonstrated programming expertise by debugging **hundreds** of lines of complex C code and gaining experience with large-scale projects

## SKILLS

**Languages:** C++, C#, C, Python, JavaScript, TypeScript, SQL, x86 Assembly Language

**Frameworks & Tools:** React.js, Next.js, Node.js, Three.js, Git, Unity, Unix, AWS, AGILE