

# Peter 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

## EXPERIENCE

### Full-Stack Developer Intern

Medford, MA

Launch

February 2025 - April 2025

- Assisted in the production of an **AI-powered website builder** from scratch at a **startup** company, working on **full-stack** 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 - May 2025

- 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 **RESTful API** handlers using **TypeScript**, enhancing several **React** components, and styling them with **TailwindCSS**
- Facilitated user content management by **designing** a page that enables the user to **upload images** into a custom carousel, **detailed 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 for **30+** high-school students, 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

### Programming Language Interpreter | Elm, JavaScript, HTML, CSS

May - August 2025

- Engineered a **zero-setup**, **web-based IDE** from **scratch**, integrating several interpreters (Impcore, nano-ML, Molecule, uScheme, uSmalltalk, etc.) via **Elm ports** and **JavaScript** bridges to enable **live program execution** in the browser.
- Designed a custom **API** that integrates custom interpreters suited for **200+** CS105 students at Tufts to complete their homework
- Worked alongside and mentored by Professor Emiertus **Dr. Norman Ramsey**, author of the course's textbook
- Delivered a **scalable MVP** with modular interpreter support, enabling seamless expansion to **new languages** while maintaining a lightweight, dependency-conscious stack suitable for long-term course use

### 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 **toggling** 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

## SKILLS

**Programming Languages:** Advanced: C++/C/C#, Intermediate: Python, JavaScript, TypeScript, x86 Assembly, SQL

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