Peter Morganelli

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EDUCATION

Tufts University **Medford, MA**

Bachelor of Science in Computer Science (BSCS) *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*

- 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 **RESTful** 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, **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 for **30+** high-shcool 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* **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** suited for **200+** CS105 students at Tufts to complete their homework using **JavaScript** in an **Elm** application
- Worked alongside and mentored by Professor Emiertus **Dr. Norman Ramsey**, regarded as the father of the computer science department
- **Delivered a scalable MVP architecture** 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, **Beginner**: SQL

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