

# JAVIER LAVEAGA AGUIRRE

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## EDUCATION

### Tufts University – School of Engineering

Medford, Massachusetts

*Candidate for Bachelor of Science in Computer Science, Minor in French*

*Class of 2026*

- GPA: 3.89/4.00
- Relevant Coursework: Data Structures, Calculus III, Probability, Statistics, Discrete Math, Linear Algebra, Machine Structure and Assembly Language Programming, Algorithms, Software Engineering
- Tufts in Talloires - France abroad program (Summer 2023)

## EXPERIENCE

### Tufts University - Center for Engineering Education and Outreach

Medford, Massachusetts

*Software Developer Research Assistant*

*September 2024-Present*

- Fixing bugs and adding new features to a course website to enhance functionality
- Building an interactive synthesizer for undergraduates to learn about sine waves and sound

### JumboCode

Medford, Massachusetts

*Software Developer*

*September 2024-Present*

- Collaborating with a nonprofit to address the challenge of manually managing educational resources for tutors serving adult immigrants in Greater Boston
- Designing and developing a streamlined library system that catalogs textbooks and resources, making it easier for tutors to access materials and support their students' language learning

### Tufts University - Center for Engineering Education and Outreach

Medford, Massachusetts

*Technology Development Intern*

*June-August 2024*

- Developed interactive, web-based interfaces for LEGO Education, using PyScript, integrating Python with HTML, CSS, and JavaScript to enhance user experience and functionality
- Created lower-level communication protocols within a team of 15, ensuring seamless data exchange and synchronization between multiple devices on the LEGO SPIKE and Arduino Alvik platforms

### Tufts University - IDEA Lab

Medford, Massachusetts

*Undergraduate Researcher*

*February-May 2024*

- Utilized a machine learning model and hyperspectral imaging to classify various types of plastic

### Tufts University - School of Engineering

Medford, Massachusetts

*Research Assistant*

*February-April 2023*

- Analyzed survey data from 3,557 students across three academic years (2020-2022) to identify patterns and trends in collaboration with the Office of Institutional Research and the Dean of Engineering

### Tufts Mexican Culture Club

Medford, Massachusetts

*Executive Board Member & Treasurer*

*September 2023-May 2024*

- Managed administrative and budget-related tasks while organizing events to promote Mexican culture and collaborated with the Consulate of Mexico in Boston to connect professors and students.

## PROJECTS

### Image Compressor

- Implemented in C using discrete cosine transformation, quantization, and bit packing techniques

### Universal Machine

- Created a Turing-complete virtual machine in C, achieving 12x processing speed increase after profiling

## SKILLS

**Programming Languages:** C, C++, Java, Python, JavaScript, PyScript, HTML & CSS, SQL, MATLAB

**Software:** Microsoft Office 365, Latex, Onshape, LEGO Robotics, Arduino, GarageBand

**Framework & Technologies:** React, Git, GitHub

**Languages:** English, Spanish, French