SHEPARD RODGERS

Beacon, NY (Home) ⋄ Medford, MA (School)

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EDUCATION

Tufts University, Medford, MA   September 2023 - May 2027 (expected)

MAJORS: Computer Science & STS (Science, Technology, and Society)   3.95 GPA

HONORS/AWARDS: Dean's List (All Semesters)

RELEVANT COURSEWORK: Algorithms, Data Structures, Machine Learning & Data Mining, Linear Algebra, How Systems Fail, Machine Structure & Assembly Programming, Discrete Mathematics, Intro to CS

EXTRACURRICULARS: Tufts AI Safety (Technical Lead), The Lantern: Tech Impact Think Tank (E-Board Member), CubeSat Team (Technical Lead), JumboCode, Bangin' Everything At Tufts (President)

EXPERIENCE

Public Interest Technology - New England | Impact Tech Fellow   May 2025 – June 2025

Gemini API, Prompt Engineering, Agile, NLP, Data Wrangling, React, MySQL   *Boston, MA*

· Scrum lead for a 5-person team developing an LLM-powered civic tool for Dorchester's 26-block Talbot Norfolk Triangle, serving 2,000+ residents with insights from 5 years of public safety data and 3 years of community meeting transcripts.
· Apply Agile development practices and facilitate weekly stakeholder meetings and on-site community engagement to align product features with lived experience and local safety concerns.
· Craft prompts for Gemini to extract sentiment and trends; engineer a React-based frontend with geospatial visualizations and natural-language summaries for community use.

Tufts University, Department of Computer Science | Teaching Assistant   January 2024 - Present

C, C++, Assembly, Cache Analysis, Technical Communication, Debugging, Architecture Review   *Medford, MA*

· Support students in the Intro to CS and Machine Structure/Assembly Programming courses at Tufts.
· Debug C++, C, and Assembly code at the machine level, focusing on computer architecture and modular programming.
· Discuss coding skills and abstraction through weekly labs, online forums, and review sessions.
· Evaluate the structure and organization of students' code, including modularity, documentation, and formatting.

Tufts CubeSat Mission | Software Engineer   October 2023 - Present

Python, Hardware API, Edge Detection, Convolutional Neural Networks, Optimization for Edge AI   *Medford, MA*

· Build a computer vision model to recognize & classify space debris with high speed and accuracy onboard a satellite.
· Enhanced in-orbit image capture pipeline by integrating GoPro API for live-feed access.
· Co-authored and reviewed a 92-page proposal to launch the CubeSat on a NASA rocket.

PROJECTS

Reading Level Classifier | *Python, Hyperparam. Selection, Cross-Validation, BERT*   February 2025 - March 2025

· Trained a binary classifier to predict age suitability of text excerpts with 70% AUROC accuracy.
· Applied Google's BERT embeddings, grid search, and a multi-layer perceptron to refine model accuracy.

Image Compressor & Decompressor | *C, Bitpacking, Quantization, DCT*   October 2024 - October 2024

· Engineered an image compression algorithm, reducing storage by 50% while maintaining visual quality.
· Implemented bit packing and DCT for efficient encoding of PPM images, achieving half the baseline's compression error.

Theatre@First Inventory Website | *TypeScript, React, Tailwind CSS, GitHub, Figma*   October 2023 - May 2024

· Developed a full-stack inventory management system for a non-profit theatre with an agile development team.
· Built a dynamic React UI for streamlined data entry and retrieval, greatly improving usability.

TECHNICAL STRENGTHS

Languages	Python, C++, C, JavaScript, TypeScript, x86 Assembly, SQL, HTML, CSS, LaTeX
Frameworks	React, Gemini API, BERT, Google Workspace, Scikit-learn, PyTorch, NumPy, Pandas, Jupyter
Developer Tools	GitHub, VS Code, Pycharm, GDB, Valgrind, Figma, Cachegrind
Technical Skills	OOP, Data Structures, Algorithms, Model Tuning, Prompt Engineering, Bit Packing