Zachary White

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EDUCATION

Tufts University — Somerville, MA
Bachelor of Science in Computer Science — *Aug. 2022 – Expected May 2026*

The Woodstock Academy — Woodstock, CT
High School Diploma — *Aug. 2018 – May 2022*

EXPERIENCE

Technical Lead — Jun. 2024 - Present
JumboCode at Tufts — *Medford, MA*
- Managed a team of 10 programmers, a designer, and a PM to deliver websites to local nonprofits
- Lead the team to build and program applications in React using Node.js and Nextjs
- Developed skills in fullstack development and the software engineering pipeline

Undergraduate Research Assistant in Human-Computer Interaction — Feb. 2024 – Present
Tufts University — *Medford, MA*
- Developed tasks and testing methods for analyzing perceived and actual mental workload while using LLMs
- Collected and analyzed data using tools in Python to evaluate mental strain (numpy, Matplotlib)
- Explored use cases for LLMs in creative contexts
- Study performed under Microsoft for testing of Copilot

Emergency Medical Technician — May 2023 – Present
Cataldo Ambulance — *Somerville, MA*
- Supplied lifesaving care to patients in the greater Boston area
- Practiced triaging and teamwork skills to efficiently provide care
- Utilized Python scripting to update PCR software and reboot company laptops at a large scale on a day with outages in ability to file reports

PROJECTS

Reddit Politics Sentiment Analysis Dashboard | *React, PostgreSQL, Docker, GPT-4* — Feb. 2024 – March 2024
- Developed a full-stack web application with React as the frontend
- Implemented data-scraping technologies to gather data from several political Reddit forums
- Used GPT-4, and a self-trained model, to categorize political leaning from language and content
- Used Matplotlib to graph leaning trends over time daily and display on the frontend
- Additionally, gathered trending figures and topics that were also displayed on the page

Grep | *C/C++, Git, Data Structures & Algorithms* — Apr. 2023 – May 2023
- Developed a Grep implementation in the C programming language, mainly indexed in a hash table
- Utilized system for index times <2 minutes in file systems as large as the Gutenberg library (∼800 GB)
- Exercised skills in building applications under time and space constraints

Arith: A PPM Compressor | *C, Git, Object-Oriented Programming* — Oct. 2023 – Nov. 2023
- Designed and implemented an image compressor for PPM filetypes in C
- Utilized profiling tools such as qcachegrind to analyze bottlenecks in image processing for large files
- Achieved compression and decompression with loss < 2%

TECHNICAL SKILLS

Languages: JavaScript, Python, C/C++, C#, SQL (Postgres), HTML/CSS, R
Frameworks: React, Node.js, Tailwind, WordPress, Angular, Spring Boot
Developer Tools: Git, Docker, Google Cloud Platform, AWS, VS Code, Visual Studio, IntelliJ, Vim
Libraries: pandas, NumPy, Matplotlib
Publications: Visualization and Workload with Implicit fNIRS-based BCI, Co-Author
Relevant Coursework: Data Structures, Algorithms, Machine Structure & Assembly Language Programming, Human-Computer Interaction