

Leo Strangman

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Education:

Worcester Polytechnic Institute, Class of 2026	2022-2026
<ul style="list-style-type: none">• Majoring in Computer Science, Minor in Data Science, GPA 3.85• Courses include Software Engineering, Machine Learning, Introduction to Artificial Intelligence, Operating Systems, Machine Organization, Human-Computer Interaction, Accelerated Object Oriented Design Concepts, and Algorithms	

Skills:

Languages: C, C++, Java, Python, JavaScript, TypeScript, SQL, HTML/CSS, Astro, Assembly (Linux), Bash, R
Frameworks and Libraries: React, Tailwind, Flask, Bootstrap, Pandas, NumPy, Matplotlib, TensorFlow, PyTorch
Environments/Tools: Ubuntu, Git, GitHub, Anaconda, VSCode, Docker, Figma, Blender, JetBrains, SQLite
Workflows and Practices: Agile, Scrum, Waterfall, CI/CD, GitHub Actions

Work Experience:

CS/DS Intern Massachusetts General Hospital	2022-2025
<ul style="list-style-type: none">• Front and back-end website development for the Neural Systems Group and the Center for Space Medicine Research using Astro, Tailwind CSS, Postgres, Vercel• Automated data analysis collected with biomedical research equipment using Python to increase analysis efficiency by over 80%• Supported design of a novel biomedical monitoring and brain imaging system to be used for neurophysiology research aboard the International Space Station• Aided in redesigning and fabricating housing and sensor components using CAD models and soldering	

Projects:

leostrangman.com Astro, Tailwind, TypeScript, Javascript, Vercel	2025-Present
<ul style="list-style-type: none">• Designed and developed a visually engaging personal portfolio website to showcase projects and technical skills	
ResearchApp Python, Flask, HTML, JavaScript, SQL Alchemy	2024
<ul style="list-style-type: none">• Created an application used to post and apply to research positions within a university, integrating RESTful APIs to manage user data, research listings, and applications• Utilized the Agile software development methodology to work effectively in a group setting• Managed class relationships and user information securely in a Python-based SQL Alchemy database connected via Jinja2 to a web interface designed with HTML, CSS, and JavaScript• Established a local server with Python and Flask for those on the university network to access the site	
Vehicle Heads-Up Display Design Figma, HTML, Javascript, Blender	2024
<ul style="list-style-type: none">• Designed a heads-up display for use in a variety of vehicles, intended to limit distraction while providing easy access to necessary information and effective yet simple customization of the user experience• Based on HCI heuristics, qualitative user research with semi-structured interviews, A/B testing, and more, the final HUD was shown to be the most effective and satisfactory design out of provided options	
Threads, Memory Management, and Scheduling Ubuntu, VirtualBox, C	2024
<ul style="list-style-type: none">• Engineered a multi-threaded simulation of a virtual sports field in C, implementing decentralized thread coordination to manage concurrent team and player interactions without a centralized scheduler• Designed and implemented a custom paging system with memory-mapped addressing, supporting map, store, and load operations for simulated virtual memory management	
Exploiting Programs in C and Assembly Assembly (Linux x86), C, GDB	2023
<ul style="list-style-type: none">• Analyzed decompiled C code to reverse engineer and exploit vulnerabilities by crafting inputs and performing control flow manipulation• Executed stack-based buffer overflow attacks and implemented ROP chains to bypass security mechanisms	
Developing Algorithms for Programs in Java Java, Eclipse, IntelliJ	2023
<ul style="list-style-type: none">• Simulated dynamic memory allocation in Java by implementing custom malloc and free logic using linked lists• Developed and optimized BST algorithms to support node operations, such as removal of nodes based on value parity• Implemented traversal algorithms on weighted adjacency matrices to evaluate connectivity and shortest paths	