

Weini Xie He

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Education

University of Pittsburgh - *Bachelor of Science in Computer Science*

Expected in April 2026

GPA: 3.83

Relevant courses: Algorithms and Data Structures 1 and 2, Programming Language for Web Application, , Database Management, Discrete Mathematics for CS, Computer Organization and Assembly Language, Intermediate Programming

Skills

Programming languages: Java, MIPS languages, Python, HTML, CSS, JavaScript

Tools: Visual Studio, Git, Jupyter Notebook, Shell

Projects

To-do list website

- Designed and developed a fully functional to-do list web application using HTML, CSS, and JavaScript for the front-end interface, with Node.js for the back-end and SQLite3 as the database.
- Implemented key features such as task creation, task status updates (complete/incomplete), and data persistence using a RESTful API architecture.
- Integrated a clean, user-friendly UI, ensuring responsive design and smooth user interactions.
- Handled server-side logic for managing task lists and optimized the app for scalability and future enhancements.

The “Best” neighborhood in Pittsburgh

- Developed a custom algorithm to rank Pittsburgh neighborhoods, leveraging data from at least three distinct sources, such as crime rates, walkability, and public services.
- Spearheaded data cleaning, preprocessing, and exploratory analysis phases, ensuring data accuracy and consistency for final output.
- Managed the project workflow using Git and GitHub, practicing continuous integration and collaborative software development in a team of three.
- Analyzed large datasets using Python libraries like NumPy, visualizing trends and insights with Matplotlib.
- Highlighted teamwork, project management, and data analysis skills, showcasing the ability to contribute to a collaborative project environment and presented to about 20 people.

The Boulder Dash

- Designed and built a retro-style video game in MIPS assembly language, combining elements from *Boulder Dash* and *Minecraft* with unique, original mechanics.
- Engineered the game logic from scratch, including player movement, collision detection, and dynamic object interactions in a constrained low-level environment.
- Optimized performance and memory usage, demonstrating an in-depth understanding of low-level programming, assembly instructions, and efficient game mechanics.
- Debugged and fine-tuned game elements using MIPS simulation tools, ensuring smooth gameplay and a polished user experience.