# Yanmei Wang

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## EDUCATION

**University of Michigan, Ann Arbor, United States** 04/2025
*M.S. in Computer Science & Engineering*, GPA: 3.9/4.0

**University of Michigan, Ann Arbor, United States** 04/2023
*B.S. in Computer Science*, GPA: 3.8/4.0

**Shanghai Jiao Tong University, Shanghai, China** 08/2023
*BSE. in Electrical and Computer Engineering*, GPA: 3.6/4.0

## SKILLS

**Languages**: C++, C#, Python, HTML/CSS, Swift, GoLang, Javascript
**Framework**: XCTest, Numpy, Pandas, React.js, Django, Flask, SQLite, Alamofire, OpenAI API
**Tools**: Git, AWS, Jira, Confluence, XCode, VS Code, JetBrains IDEs, Unity,
**Other skills**: Agile Development, Data Structures, Unit Testing, Debug, Object-Oriented Design Principles, Relational databases, Web Design & System, Operating System, Software Development Cycle, Machine Learning, Delta Debug

## WORK EXPERIENCE

**Software Engineer Intern @ PreVeil, Inc.** Boston, MA | 06/2024 - 08/2024

- Integrated the PreVeil Drive backend with the **FileProvider framework** on macOS using **GoLang** and **Swift**, successfully mounted the online PreVeil Drive to macOS devices' file system, keeping files updated on all devices.
- Implemented and deployed 22 **RESTful API** endpoints using the **Swift Alamofire** library sending **HTTP** requests, enabling mounting, browsing, and CRUD operations to remote drive directly via macOS Finder.
- Developed and deployed over 30 **unit tests** for the JSON decoder and the backend API endpoints using **XCTest**. Additionally, conducted API testing with **Postman**, ensuring code integrity.
- Iterated and improved **UI/UX** of PreVeil Desktop/Web App using **TypeScript, Javascript,** and **HTML/CSS**, improving performance and user experience.
- Engineered a diagnostic API endpoint for PreVeil Drive using **GoLang**, optimizing data pagination from the server backend, which reduced data flow overhead and improved response time by ~1.5x. Improved the corresponding diagnostic frontend webpage using **HTML and Javascript** to adapt to pagination.

**Software Developer @ Arborsense, Inc.** Ann Arbor, MI | 09/2022 - 02/2024

- Implemented multiple data processing techniques using **Numpy**, **Pandas**, and **Scipy** (baseline correction, FFT filtering, etc.) to analyze biological & environmental data with **SQLite**, identifying over 72 types of patient events using **Python**.
- Generated chart reports using **Matplotlib**, enabling the engineering team to visually identify event periods on a timeline, significantly accelerating the development and iteration of algorithms.
- Directed the **code version control** and **documentation** within the engineering team, resulting in a well-organized changelog over 78 iterations to ensure transparency and easy tracking of updates.

## PROJECT EXPERIENCE

**LLM (GPT-4o) Powered Chatbot** 10/2024

- Developed a **Django-based AI chatbot** supporting middle school students' learning experiences by processing video transcripts and providing targeted assistance.
- Performed **prompt engineering** to optimize responses from the assistant according to the student's responses, ensuring that responses were relevant, clear, and age-appropriate for the target audience.
- Developed backend functions in **Python** to register, query, manage, and delete AI assistants through the **OpenAI API**.
- Used **SQLite** database to manage assistants for individual students.

**Instagram Clone Web App** 10/2022 – 11/2022

- Created an Instagram-like social media website with user profile, posts, comments, likes, and follows features.
- Developed & improved the website layout using **HTML/CSS**.
- Implemented back-end services to update user interactions in real-time using **Python Flask**, and integrated with **SQLite** database for CRUD operations on the user, following, and commenting tables.
- Developed **client-side dynamic pages** with infinite scrolling & updates without refreshing using **React.js**.
- Deployed the application in **AWS EC2** instance.

## GAME DEV PROJECTS

**Web-First, Accessible Game Engine Development** [Spec | Git Repo] Ann Arbor, MI | 01/2024 – Present

(Research directed by Professor Austin Yarger @ UMich)

- Developing a web-based game engine for **RTS** + **tower defense** games.
- Implemented the in-game toast message system using **C# Godot** and **Eventbus library**.
- Created the generalizable tower and resource functionalities using **Godot** (**C#**), ensuring tower object animation and material adaptation.
- Adapting **AWS** servers to dynamically load resources into the game at runtime.

**Soul of the Forest** (**Wolverine Soft Studio**) [Steam Page] Ann Arbor, MI | 09/2023 – 04/2024

- Developed a dialogue-driven **JRPG** game inspired by *Undertale*.
- Designed and Implemented multiple **cutscenes** using Unity built-in tools such as playable director.
- Programmed various **in-game interactions** between the player character and the environment.
- Created six level maps and applied layers of tilesets using **LDTK**; worked closely with the Art and TechAudio team.
- Utilized **Jira** for project management, and **Git** for code version control and cooperation.

**BIO 452: Field Ecology of Snail-Fungus Interaction** [Gamejolt | Portfolio] Ann Arbor, MI | 03/2023 – 05/2023

- Developed a two-player asymmetric **RTS** + **tower defense** game.
- Implemented several core mechanisms in **Unity** (**C#**): special ground blocks, the navigation and auto-attack features of little snail & mushroom RTS units, the overall damage-health system, etc.
- Led the art tasks and created in-game art assets using **ProCreate**, including menu, level design, sprites, CGs, etc.