Matthew Wong

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Education

BS - Computer Science and Mathematics | Tufts University | Medford, MA **September 2021 - May 2025**

Graduated Summa Cum Laude | GPA: 3.98/4.00

Courses: Artificial Intelligence, Machine Learning, Software Engineering, Concurrent Programming, Database Systems, Cybersecurity, Programming Languages, Human-Computer Interaction

Work Experience

Founding Software Engineer | Rodium | Somerville, MA **June 2025 - Present**

- Worked with industry experts to develop a streamlined management product which integrated 4+ companies under the same management into one location for easier overview of assets
- Developed an interface for a legal document signing application using React for negotiating parties to reduce time wasted scheduling meetings
- Organized the MongoDB database schema to scale for users to edit and negotiate on assets in parallel, improving speed and functionality
- Built an API to connect the user front-end to the servers, creating a more secure connection to the database using Express.js and Node.js

AS Watsons AI Intern | CK Hutchingson Group | Hung Hom, Hong Kong **May 2024 - August 2024**

- Created a chatbot using LangChain and the ChatGPT API, deployed using FastAPI and Azure Functions, automating content generation for the marketing team reducing campaign generation from ∼960 to ∼5 mins, streamlining marketing operations and boosting productivity
- Automated data extraction from XML files using Python, transferring the data to a MongoDB database, saving 100+ hours of work, improving cost efficiency and enhancing data integrations across the marketing team's platforms
- Used NLP to vector index 1000+ entries of data to improve the accuracy of the SQL instructions for the chatbot generation
- Built an AGILE-focused object oriented program in Python to adapt to changing requirements within 12 hours
- Designed and documented an intuitive API interface to develop faster in parallel with the front-end team
- Investigated and compared open-source LLMs such as Meta's Llama model to maintain functionality while reducing costs
- Constructed an automatic advertisement builder using Meta's SAM model to generate 100+ custom website banner ads in under 1 second to target sales to users more efficiently

Computational Theory Teaching Assistant | Tufts University | Medford, MA **September 2024 - May 2025**

- Lead recitations of 30+ students and study sessions of 100+ students to develop critical thinking and deeper understanding of course topics by exploring alternate solutions, so that they could adapt and apply knowledge rather than shallowly remember
- Built up and taught lessons from scratch to students to lead them to their own understanding, resulting in an average of 10 points higher on exams compared to the class average
- Tailored explanations to each student by leading them with questions and asking to voice their thoughts, making out-of-the box concepts to become intuitive and easier to understand for each student as I worked with them more

Projects

Stepping Stones

- Ported a physical board game to a digital space in Godot to improve the user experience, going from a rating of 5/10 to 9/10 in usability, allowing for a better user experience which increased the willingness for users to come back to play
- Constructed and ran an online Oracle server for multiplayer, allowing for play across different computers via RPC, allowing for online play to increase the accessibility to users
- Tripled the amount of players and play testers at no cost by creating digital copy distribution online
- Designed a modular Object Oriented system in C#, which allowed for additional expansions to gameplay to be easily included

Multiplayer Pacman

- Constructed an online server hosted version of Pacman to allow for cross-computer gameplay using Python and Erlang, which allowed for accessibility for users to join and play
- Designed the system architecture to allow for flexible and resilient coordination between distributed systems, allowing for a fun and consistent gameplay experience
- Coded the gameplay and game logic of the system, allowing for 4+ players to play the same game simultaneously which encouraged engagement by playing with friends

Terrain Generation Algorithm

- Implemented a flexible terrain generation algorithm using Wave Function Collapse designed to be used in multiple projects
- Adapted the program to include a visualization of the program process for debugging and testing

Extracurricular

Jumbohack 2024

- Won 1st place in the "Environmental category" by building an educational game which informed users on invasive species
- Built the project within 48 hours by working closely in a team of 6 people

MIT Hackathon 2023

- Conceptualized and developed a habit-tracking calendar in a team of 5 in Swift which would keep track of the user's "streak" in keeping with their set tasks

Skills

Programming: C++, C, C#, Java, Python, JavaScript, Typescript, HTML, CSS, Bash, PostgreSQL, Erlang, HLSL, GLSL, LaTex, Swift

Technical: GitHub, ChatGPT API, Meta SAM, Hugging Face, LangChain, PyTorch, TensorFlow, SciKit-learn, Pandas, Numpy, Pygame, Jupyter Notebook, FastAPI, Node.js, React, Express.js, Docker, Azure Functions, Figma, Unity, Godot, Photoshop, Krita

Business: Technical Documentation, Project Managment, Game Design, Trello, Jira, Agile

Languages: English (Native), Mandarin