Joshua Zhang

408-888-8361 | jzhang0224@gmail.com | joshuazhang.vercel.app | linkedin.com/in/teddygat0r | github.com/Teddygat0r

EDUCATION

University of Washington — June 2026
GPA: 3.98, B.S. in Computer Science — *Seattle, WA*
Relevant Coursework: Data Structures and Algorithms, Object Oriented Programming, Low Level Systems, Linear Algebra, Intro to Data Science

EXPERIENCE

Art of Problem Solving — June 2024 - Sept 2024
Software Engineering Intern — *San Diego, CA*
- Worked in an **Agile** team environment to develop an online placement exam using **React**, allowing students to qualify for AoPS Academy courses from home, used by over **20,000** students across 12 campuses.
- Constructed 12 **RESTful** API routes on the backend using **Node.JS** to connect the frontend site to an older **PHP** server and **PostgreSQL** databases where user data is stored.
- Improved loading speed of placement exam site by **34%** by pruning unnecessary API calls and caching data.
- Wrote unit tests using **Jest** and end to end tests using **Cypress** to ensure development stability.

Advanced Robotics at UW — Sept 2023 - Sept 2024
Controls Team Software Developer — *Seattle, WA*
- Refactored Sentry robot code in **C++**, implementing substantial enhancements for improved functionality.
- Helped maintain Taproot, an open-source framework for Robomaster robots used by most teams within the US.
- Wrote unit tests for robot functionality using **gMock** to ensure codebase stability.

Department of Homeland Security — June 2023 - Aug 2023
Software Engineering Intern — *Washington D.C.*
- Developed a **Python-based** system enabling users to submit lengthy documents to a large language model (LLM) and query it for relevant information.
- Improved the accuracy and reduced hallucinations of LLMs in answering prompts by **30%** by connecting a ChromaDB Vector Database to the LLM through **LangChain**.
- Modeled the LLM API after an OpenAI API server, allowing it to communicate with the LangChain tool.

Red Cheetah Foundation — Jan 2023 - June 2023
Computer Science Tutor — *Cupertino, CA*
- Taught a class of 15 middle school students web development skills involving **HTML, CSS, and Javascript**.
- Developed an engaging curriculum that guided students in building and hosting a final portfolio website.

Fweefwop Cybersecurity — May 2021 – June 2022
Web Developer — *Cupertino, CA*
- Hosted a cybersecurity competition with **600+** participants from **28** countries, and **40,000+** submissions.
- Set up **Docker Containers**, giving each individual problem its own secure environment.

PROJECTS

Spotify Recommender | *Python, Flask, Scikit-learn, NextJS, React, Typescript, Tailwind*
- Used Manhattan distance formulas to generate vector embeddings for 12,000 songs in **Python**.
- Built a frontend using **React**, giving users a graphical visualization of songs and their recommendations.
- Used **Microsoft Azure** to spin up a container and host the website.

WildEye AI | *Flask, Tensorflow, NextJS, React, Typescript, Tailwind, Python*
- Built a wildlife-spotting camera, powered by an **NVIDIA Jetson Nano**, that can be tucked into your backyard to automatically snap pictures and recognize animals that wander by.
- Trained a model using **Tensorflow**, identifying 90 different animal species with an 86% test accuracy.
- Created a RESTful API to connect the frontend to the **SQLite** backend database in **Python** Flask.

TECHNICAL SKILLS

Languages: Typescript, Javascript, NodeJS, Python, C++, Java, SQL, HTML/CSS, Bash
Frameworks: React, Next, Tailwind, Tensorflow, Flask, Django, PyTorch, Spring, Express, ChromaDB, LangChain
Developer Tools: Git, Microsoft Azure, Google Firebase, Figma, VSCode, Docker, Kubernetes
Libraries: Pandas, NumPy, Matplotlib, Strapi, Storybook, Jest