

WEI ZHANG

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EDUCATION

COLUMBIA UNIVERSITY

New York, NY

Master of Science in Computer Science (Machine Learning Track)

Feb 2025

- Relevant Coursework: High Performance Machine Learning, Advanced Software Engineering, Computer Vision I, Operating Systems, Cloud Infrastructure/Computing, Applied/Theory Machine Learning, Artificial Intelligence, Database, Natural Language Processing, Data Structure (C/C++).

PROJECTS

Full-Stack Job Application Platform

Mar 2025 - May 2025

- Developed a full-stack job application platform using React, Node.js (Express), and PostgreSQL, featuring a multi-page UI, RESTful APIs, and role-based access for users and admins.
- Implemented secure authentication with JWT tokens and bcrypt password hashing, enabling encrypted login and persistent session management.
- Built a backend scraping service to automatically extract job data from external website, parse relevant information, and store it in the database with validation logic.

Advance Software Engineering: Prompt API Service

Sep 2023 - Dec 2023

- Developed Restful API Service in C++ for handling user data, tokens, and OpenAI ChatGPT prompts within PostgreSQL, enabling clients to host and save multiple ChatGPT sessions.
- Ensured high-quality code with unit/end-to-end/integration Tests (Catch.cpp), style checking (cpplint), static analysis (cppcheck), and branch coverage tests.

Cloud Computing: CUP Then Networking/Chat App on AWS

Sep 2023 - Dec 2023

- Developed a cloud-based networking/chat app on AWS for Columbia University students with similar background and hobbies, fostering meaningful connections.
- Hosted HTML/JavaScript frontend on AWS S3, integrated seamlessly with API Gateway and decoupled Lambda Functions, enabling flexible code updates and easier maintenance.
- Implemented Lambda Functions for profile management, real-time chat features, and matching algorithms, delivering a smooth and personalized user experience.
- Integrated Opensearch and DynamoDB for scalable user and chat data storage, and automated testing and deployment with AWS CodePipeline, achieving a fully automated workflow.

Database: Vehicle Transaction Database

Jan 2023 - May 2023

- Design and construct a database to record 34,000+ vehicle sales with dealership, manufactured, and insurance information.
- Built and optimized SQL schemas to establish relationships among vehicles, salesman, dealership, manufacturer, and insurer with key constraints to ensure data integrity and accuracy.
- Developed a Flask web application with a user-friendly front-end, allowing user to browse and purchase vehicles while enabling administrators to edit and manage the database.

WORK EXPERIENCE

Seamus Henchy and Associates, Inc

New York, NY

Associate / IT Assistant

Jun 2021 - Jan 2023

- Streamlined documentation processes by automating daily report generation, meeting agendas, and project record-documents using Python and Microsoft Flow, increasing efficiency by 30%.
- Collaborated with NYC architects and leading contractors to successfully construct school rooftop addition, and school basement renovation, meeting strict budget constraints and tight deadlines.

LANGUAGE AND IT SKILLS

- Computer Language/Skills: Machine Learning, Python, SQL Database, HTML/Javascript, C/C++, Java, Linux, scikit-learn, pandas, numpy, TensorFlow, Pytorch, Keras, AWS, Docker, Kubernetes, CI/CD.
- Certifications: AWS Certified Solutions Architect - Associate, AWS Certified Cloud Practitioner.