Dijkstra Liu

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# Summary

Has a wide range of software development project experiences, including full-stack, web application development, and game development using **React, Spring Boot, Flask, MySQL, MongoDB, PHP, JavaScript, JAVA, C++,** and **Python.**

Have experience in machine learning technique like **TensorFlow** or **PyTorch**. Capable of using models like **CNN, RNN,** and **Transformer** to solve realistic problems. Familiar with **LangChain** to build applications based on GPT’s API.

# Education

**Washington University in St. Louis** August 2022 - May 2026

Bachelor of Science in Computer Science  **GPA 4.0/4.0**

# Working Experience:

**DHC Software Co., Ltd (Django, React, LangChain, Fine-Tuning)**

*Intern in Financial Big Data Technology Department: Software Developer*  May 2023 - July 2023

* Developed an AI credit reporting system using **ChatGLM-6B**
* Trained the model with **P-tuning** to meet the specific requirements, adding **Postgres** database using **Langchain.**
* Using **React** and **Django** to build an application to use the modal for credit assessment and anti-money laundering.

**Cogno Technology (GPT API, Flask, Docker, Milvus, AWS)**

*Model fine-tuning specialist.* July 2023

* Creating a WeChat bot based on **Chroma** database and **GPT API** using **Langchain**. The bot can reply message based on docs, audio and image users send.
* Develop a secondary encapsulation framework and the OpenAI API using **Flask**, to achieve decoupling between the business end and the core logic. Transfer the previous business logic of Cogno.
* Build an independent e-commerce site based on LLM customer service and product search using **Flask**, **MySQL**, and **Milvus**. Mainly responsible for backend design, development, and debugging. Deployed on AWS using Docker.

**Beijing Institute of Technology (Transformer, Pytorch, MobileNet v2)**

*Computer Science Elite Program: Researcher* Sep 2021 - Apr 2022

* Using **Transformer** models from the field of Natural Language Processing (NLP) for MIDI music generation
* Employed the **MobileNet V2** model to identify music’s style and emotion based on waveform images.

# Project Experience:

**Bill Split: Team Expense Manager (MongoDB, Node.js, React)**

* Developed a user-friendly interface with **React** for efficient team expense tracking and management.
* Implemented a graph theory algorithm to streamline and simplify the transaction process among team members.
* Built backend operations with **Node.js** and **Express**, including APIs for adding, retrieving, modifying, and deleting expenses.
* Designed a **MongoDB** schema for optimal storage and querying of expense data.
* Employed **Git** for version control and deployed using **Docker** for consistent environments.

**WashU Internal Second-hand Goods Trading Platform (Spring Boot, React)** July 2023 - Sep 2023

* Led the design and development of WashU's internal second-hand trading platform, serving students and faculties.
* Crafted a React-based interface and backend services with **Spring Boot**.
* Introduced the **GPT API** to enhance user shopping experiences through intelligent product insights and providing users with tailored product suggestions.
* Utilized **Git** for version control and deployed with **Docker** for consistent application environments.
* Continuously updated and optimized platform features based on user feedback and changing requirements, ensuring the platform's relevance and efficiency.

**Team Event Management System Similar to Google Calendar (PHP, AJAX, HTML, MySQL)** Apr 2023 - May 2023

* Developed key functionalities using **PHP, JavaScript, HTML,** and **AJAX**, such as event addition and team joining to view collective events.
* Executed core event management logic, encompassing the addition, deletion, and modification of events.
* Crafted a **MySQL** database structure to securely store user data and event details.

**Storm Watch: A multi-player 2D RPG shooting game (C#, Unity)** June 2023 - Sep 2023

* Spearheaded the development of "Storm Watch," a multi-player 2D RPG shooting game using **Unity** and **C#**.
* Took the helm in game design, conceptualizing and detailing the game's narrative, characters, and setting to create a compelling backdrop for the gameplay.
* Implemented **local area network (LAN)** multiplayer capabilities, permitting players to team up or combat in real-time.
* Designed and integrated character skill effects, enriching gameplay dynamics.
* Engineered the core game logic, providing a robust foundation for character movements and balanced gameplay mechanics.
* Actively gathered and implemented player feedback, continuously refining the game for an optimal experience.

# Honors and Awards

* Distinction Rank (Top 5%) in 2021 AMC 12A Dec 2021
* 1st Place in Gold Division (out of 723 participants) of the USACO Contest Jan 2020
* Top 2% of 148,880 students, National Olympiad in Informatics in Province (NOIP) May 2019
* Dean’s List at Washington University in St. Louis for all semesters. June 2023