DIJKSREA 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**, **Express**, **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. Be able to use **LoRA**, **Adapter**, and **Prompt tuning** to fine-tune open-source LLMs and CV models. 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 (Python, Javascript, LangChain,)

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 and **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 (Langchain, GPT API, Flask)

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 of the Langchain 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.

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.

Guilin Experimental High School (C++, Algorithms and Data structures)

Computer Education Program: Olympiad in Informatics Teacher and Program Leader

July 2019 - July 2022

- Initiated a computer support teaching project at Guilin Experimental Middle School Affiliated with Capital Normal University, where I taught over 100 students and gave over 200+ lectures.
- Taught information competition classes to help students learn competition algorithms and prepare for major international information technology competitions.

PROJECT EXPERIENCE:

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

Mar 2023 - Apr 2023

- Developed the front end using **React**, ensuring a responsive and user-friendly design.
- Implemented the backend using Node.js Express, including expense management and database connectivity APIs.
- Designed and implemented the **MongoDB** database schema to efficiently store and retrieve expense data.

Gomoku Battle Program and AI (C++)

July 2021 - Sep 2021

- Implement the basic logic and interface of the Gomoku game.
- Use C++ to write AI algorithms and optimize them using the Expectimax algorithm.
- Debug and test the program to ensure its stability and functionality.

Team Event Management System Similar to Google Calendar (PHP, AJAX, HTML, MySQL)

Apr 2023 - May 2023

- Use PHP, JavaScript, HTML, and AJAX to implement the system's essential functions, like adding events and joining teams
 to view team events.
- Implement the core logic of event management, including adding, deleting, and modifying events.
- Design a MySQL database to save users' data.

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 |