

Dehao Dong

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Education

Trinity College Dublin, September 2023 - To date

MSc. Intelligent System - Computer Science

Main Courses: Advanced Software Engineering, Information Retrieval and Web Search, Machine Learning, Next generation Networks, Artificial Intelligence, Adaptive Applications, Text Analytics

Xi'an University of Technology, September 2019 - July 2023

Bachelor of Network Engineering - Computer Science

Main Courses: C Language Programming, Data Structure, Computer Network, Database System Theory, Network programming, Object-Oriented Programming, Java Programming

Skills

C, C++, Java Maven, Python Django, TensorFlow, Linux Security

Project Experience

LLM Adaptation for University Education (April 2023 – July 2024)

- Based on the Meta CodeLlama model, utilized the LangChain framework to parse documents uploaded by educators and establish a local knowledge base.
- Utilized prompt engineering to control the conversation logic of LLMs, preventing students from directly using AI-generated answers for assignments.
- Fine-tuned the large language model using small-scale datasets relevant to educational scenarios to make it more suitable for education.
- Collected teacher feedback to implement RLHF, allowing educators to adjust the model's responses to specific questions within a small knowledge domain.

BookABook (December 2023 – April 2024)

- Developed a content-based collaborative filtering algorithm based on book genres and length datasets to recommend books with similar characteristics to users' favourite books.

- Implemented an item-based collaborative filtering algorithm using user book rating datasets to recommend books highly rated by users with similar preferences.
- Collected users' current moods through a Mood Board and used a text analysis model to calculate sentiment vectors from book reviews, recommending books that match users' moods.

City Disaster Response System (September 2023 – March 2024)

- Trained a Long Short-Term Memory (LSTM) model using historical traffic data of Dublin to predict the future GPS location of a vehicle based on its historical GPS data in case of network disconnection.
- Developed the part of the Django backend responsible for sending vehicle GPS coordinates, displaying the real-time location of online vehicles, and invoking the model to predict the GPS location if the vehicle is offline.
- Developed the authentication control part of the Django backend, using JWT tokens to clarify the user's permission group on the frontend.

Internships

Xi'an Tiankuo Electronics Co., Ltd June 2022 - August 2022

System Maintenance Engineer

Worked on code review, database backup, and system data error handling.

During the internship experience, I got familiar with the Linux system in a real production environment, enhanced my understanding of Linux architecture, and learned how to use mysqldump for database backup.

Activities

As the Vice Director of the University Basketball Referee Association, I participated in organizing basketball events on campus, refereeing, and conducting training. September 2021 - July 2022

Honours and Awards

- Excellent Essay Award for Social Practice June 2022
- 2020-2021 Advanced Individual in Sports March 2022
- 2020-2021 Outstanding Student Leader Award March 2022
- 2020-2021 Advanced Individual in Academics March 2022
- 2019-2020 Outstanding Student Leader Award January 2021
- 2019-2020 Advanced Individual in Academics January 2021