Andrew Kim

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EXPERIENCE

AI Engineering Intern — May 2024 – Present
MINDS AND COMPANY — *Gangnam-gu, Seoul*

- Enhanced BGE-m3 embedding model's MRR for a RAG chatbot by 11% through the implementation of a cross encoder reranker and fine-tuning techniques.
- Integrated a streamlined ETL data pipeline to ensure regulated, high-quality data, enhancing the performance of NLP models.
- Automated data cleaning process on thousands of rows of data for correct positive and negative label sorting using LLM and one-shot prompt engineering.
- Conducted research on advanced RAG techniques such as recursive retrieval and graphRAG.
- Conducted research on SOTA embedding models.

Software Developer Intern — Sep. 2023 – December 2023
Topia Education Inc — *Gangnam-gu, Seoul*

- Spearheaded the development of a cutting-edge speech shadowing system, integrating an automated grading feature using Microsoft Azure's AI pronunciation assessment SDK. Constructed an ERD of complex database relationships complemented by a flow diagram.
- Implemented the 'Sign-In with Apple' feature using Apple's REST API enabling streamlined user sign-ups.
- Expanded the 'view previous lectures' feature by allowing multiple recordings to be linked to a single meeting ID using a foreign key. Leveraged AWS CloudWatch for real-time monitoring of worker process.

Frontend Developer Intern — January 2023 – April 2023
Topia Education Inc — *Gangnam-gu, Seoul*

- Implemented a 'view previous lectures' feature utilizing Zoom's API that displays past lectures based on user input with pagination. Automated process by constructing a worker utilizing serverless framework and cron.
- Implemented Kakao social login using Kakao's third party REST API based on OAuth 2.0 protocol with JWT authentication. Used TypeScript, React for frontend, Node.js, Express.js, Axios.js, SQL for backend.
- Developed a referral service along with a discount coupon feature allowing users to input referral phone numbers during sign-up and verifying them.

PROJECTS

Recapt | *Flask, Transformers, APIs, VS Code* — September 2024 - Present

- Recapt summarizes long, time-consuming videos into concise text, saving users time.
- Chrome extension developed using Flask, youtube-transcript-api, and transformers pipeline for summarization.

Tokenizer | *C++, VS Code* — April 2024

- Developed a high-performance tokenizer for LLMs designed for efficient string-token mapping.
- Implemented bidirectional hash table and optimized access time to be amortized $O(1)$.

Stock Price Prediction Program | *Python, XGBoost, Google Colab* — January 2024

- Implemented a stock price prediction program using the XGBoost algorithm in Python and Google Colab. Performed comparisons against the LSTM model.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, C++, SQL, HTML/CSS
Frameworks: React, Node.js
Developer Tools: Git, VS Code, AWS
Libraries: pandas, NumPy, Matplotlib

EDUCATION

University of Waterloo — Waterloo, ON
Candidate for Bachelor of Applied Science, Major in Computer Engineering — *Sept. 2022 – Present*