ANDREW KIM

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Education

University of Waterloo, Candidate for Bachelor of Applied Science　　　　**Sep. 2022 – Current**
Major in Computer Engineering　　　　*Waterloo, ON*

Relevant Coursework

- Data Structures and Algorithms
- Discrete Math
- Digital Computers
- Electronic Circuits 1
- Adv Calculus for Engineers
- Digital Circuits and Systems

Experience

Topia Education Inc　　　　**September 2023 – December 2023**
Junior Software Developer　　　　*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 and Flutter's InAppWebView, enabling streamlined user sign-ups. Tested through Firebase App Distribution.
- 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.

Topia Education Inc　　　　**January 2023 – April 2023**
Front End Developer　　　　*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

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).

Spell-checker | *C++, VS Code*　　　　**March 2024**

- Developed a multi-functional spell-checker program utilizing the trie data structure.
- Integrated complex tree-based algorithms, including insert, erase, and spell-check.

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

- Engineered a dynamic ranking server that automatically updates rankings at scheduled intervals, ensuring real-time accuracy and relevancy in displaying user standings.

Ranking Server | *JavaScript, Docker, Cron, MongoDb Compass, Express.js, VS Code*　　　　**January 2023**

- Engineered a dynamic ranking server that automatically updates rankings at scheduled intervals, ensuring real-time accuracy and relevancy in displaying user standings.

Air Quality Detector | *C++, STM32 Nucleo-64, STM32CubeIDE*　　　　**October 2022**

- Designed an air quality detector for asthma patients that sounds an alarm when it senses polluted air based on VOCs.

Technical Skills

Languages: JavaScript, TypeScript, C++, HTML/CSS, SQL
Developer Tools: VS Code, XCode, Postman, Docker
Technologies/Frameworks: Node.js, React, Redux, DBeaver, AWS

Awards

President's Scholarship of Distinction　　　　**April 2022**
University of Waterloo, Awarded for an admissions average greater than 95%, $2000