Jeon Hyeong Lee

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SKILLS

C, C++, Python, Java, C#, TypeScript, Django, .NET, React, Electron, PyTorch, STM32 MCU, Git

EXPERIENCE

WAVELIFESTYLETECH Seoul, Korea
Software Engineer Jul 2019 - Mar 2021

Robotic kitchen Jan 2020 - Mar 2021

- Raised $3.5 million in a pre-series A funding by developing a robotic kitchen system capable of making 120 salad bowls per hour.
- Reduced monthly labor costs from $4,000 to $3,000 by automating 35% of kitchen tasks using robotic modules that control various sensors and motors.
- Reduced human error rate to below 2% by designing a graphical user interface that updates every second to monitor the entire system in real time.
- Integrated multiple robotic modules through asynchronous communication and defined API to handle various data including delivery order, menu recipe, and error signal.
- Attained a high-precision recipe by implementing an algorithm for serving 20 types of solid or liquid ingredients with an error margin of 1 gram.
- Managed a salad bowl store operated by the robotic kitchen system, which received 600 positive reviews monthly and selected as one of the top-ranked stores on delivery apps.
- **C, Python, C#, TypeScript, .NET, React, Electron, STM32 MCU, Raspberry Pi, SQLite**

Double pan frying module for steak grilling Jul 2019 - Dec 2019

- Reduced grilling time from 5 minutes to 3 minutes by inventing a double pan frying module that grills steak on both sides simultaneously without flipping.
- Achieved high-quality grilled steak by optimizing an algorithm to maintain the target temperature within a 1-degree Celsius margin of error.
- Accomplished 95% operation success rate and 85% positive feedback on the taste and quality of grilled steak from 380 customers.
- **C, Python, C#, .NET, Raspberry Pi, Arduino**

PROJECT

DeepMetrics
undergraduate research program Mar 2022 - Jun 2022

PPG to heart information

- Led a project to predict heart information (e.g., heart rate, ECG signal) from PPG signal by implementing an AI model based on the Demucs waveform source separation model.
- Trained AI model on the MIMIC-III Waveform Database and conducted model optimization through group normalization, hyperparameter tuning, and data cleaning.
- **Python, PyTorch, TensorBoard, AWS EC2**

ProbLoom Sep 2021 - Dec 2021

- Developed a web service for self-directed learning which allows users to create and review custom problem sets.
- Designed RESTful API and wrote test code to improve reliability and maintainability.
- **TypeScript, Python, React, Redux, Jest, Django, PostgreSQL**

EDUCATION

Seoul National University, College of Liberal Studies Seoul, Korea
Bachelor of Science in Mathematical Sciences & Computer Science and Engineering Mar 2014 - Feb 2023

- Bachelor thesis, ‘Algebraic construction of Penrose's non-periodic tilings of the plane from pentagrids’, ‘A comparison of matrix-chain multiplication algorithms’.
- Coursework : Algorithms, System Programming, Hardware System Design, Introduction to Deep Learning, Business Venture and Entrepreneurship.