Frederick Seo

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Summary

- A Computer Science student interested in finding optimized solutions and writing understandable codes. Experience working in **backend/frontend** development, cloud services, deployment/operation, and project management. Adept at motivating self and others. Open to **internships/co-op** opportunities as a **software developer.** Expect to graduate in **December. 2025**

Education

Bachelor of Science	**University of Wisconsin-Madison**	*Madison, WI, USA*	**08/2019 - Current**

- **B.S. in Computer Science**
- **GPA: 3.53 / 4.00**
- Military Service in Cheorwon, South Korea (Aug. 2020 - Feb. 2022)

Experience

Software Engineer, Intern	**NEXTLab**	*Seoul, South Korea*	**10/2022 - 12/2022**

- Worked in the IAS(Intelligent Automation Service) team to develop AI-based service..
- Was a part of the PlantyM - NewsPaper OCR project, an **event-driven microservice** that runs serverless on the **AWS** cloud, using the latest technologies of **AWS**, **Amazon S3**, **AWS Step Functions**, **AWS Lambda**, **Node.js**, **Docker**, **PostgreSQL**, **Redis**, and **Express**.
- PlantyM - NewsPaper OCR project uses different deep learning AI modules with **Computer Vision** and **Natural Language Processing** to recognize images and text to make an automated e-newspaper service.
- Involved in...
  - Implementing **event-driven** architecture code.
  - Enhancing and evaluating AI modules.
  - Creating and implementing multiple algorithms and data structures that group and categorizes news articles efficiently.
  - Building **RESTful API** using **Node.js.**
  - Building, testing, and deploying applications quickly through **Docker** containers.
  - Running containers and code on the cloud, providing a serverless, event-driven compute service using **AWS Lambda.**
  - Building serverless workflows pipelines using **AWS Step Functions.**

Projects

- **Abandoned Dog:** Designed and developed an award-winning web service application Abandoned Dog at KAIST in Seoul **(09/2022)**
  - Abandoned Dog is a recommendation system **web service application** that uses the South Korea Ministry of Agriculture's Animal Protection Management System's **Open API** of abandoned animal information to recommend the abandoned dogs fit for the users in South Korea.
  - As an award-winning project, the South Korean government made investments in this project to be made public.
  - Effectively divided the project into smaller milestones, and managed/collaborated with one front-end developer, two data analysts, and one AI scientist.
  - Working with a group of 5, I handled the front-end, back-end, and database for the Abandoned Dog web service application.
  - The frontend of the web service application was used with **HTML 5**, **CSS 3**, and vanilla **JavaScript** using BootStrap and jQuery. The application's backend server uses **Python** and **Flask** with **PyMySql** to connect to the **MySQL** database and retrieve approximately **270,000** abandoned dog data.
  - The **Flask** server and **MySQL** database run on the cloud with the help of **Amazon EC2** and **Amazon RDS**.

Awards & Certificates

- **1st Place Award**: Won 1st place for the development of Abandoned Dog at KAIST in Seoul **(09/2022)**
- **Certificate of 2022 Special AI Academy Program**: The certificate of completing KAIST's software engineer program **(07/2022)** **(Funded by: Seocho-gu office & KAIST)**

Skills

- **Programming Language:** Python, JavaScript, Java, Bash
- **Cloud Service:** AWS
- **DB:** MySQL, PostgreSQL, Redis
- **Web Development:** HTML, CSS, Node.js, Express, React, jQuery, Flask
- **Misc:** Git, Docker