


Minjae Cho

Personal Information




Profile

 **Date of Birth:** January 15, 2000

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 **GitHub:** [SGT-Cho](#)

 **Vlog:** [sgt-cho/posts](#)

About Me

One-line Introduction

I'm Minjae Cho, a developer who embraces growth and challenges. My goal is to use technology to make people's lives more convenient.

Goals/Vision

I strive to become a developer who solves problems efficiently through diverse tech stacks and project experiences, always prioritizing user experience.



Education

- **Incheon National University**, Bachelor of Computer Science, Expected Graduation: August 2024



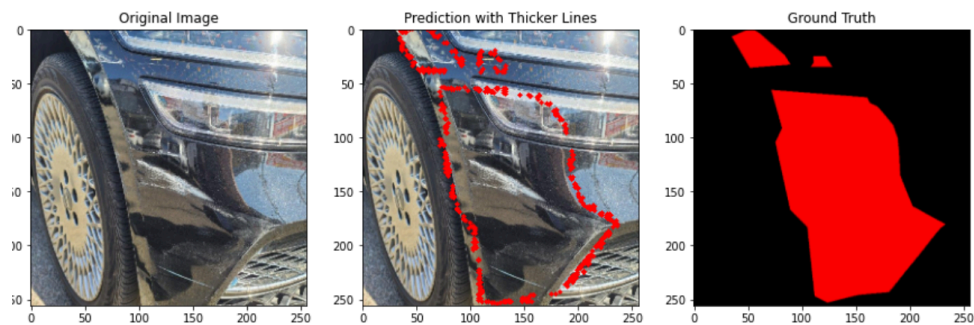
Skills

- **Programming Languages:**
 - C, C++, Python
- **Libraries & Frameworks:**
 - NumPy, Pandas, PyTorch, TensorFlow, Keras, scikit-learn, OpenCV, Matplotlib, Seaborn, XGBoost
- **Tools & Platforms:**
 - Jupyter, Google Colab, Amazon AWS, Google Cloud, Docker, Rhinoceros, Anaconda, Huggingface



Projects

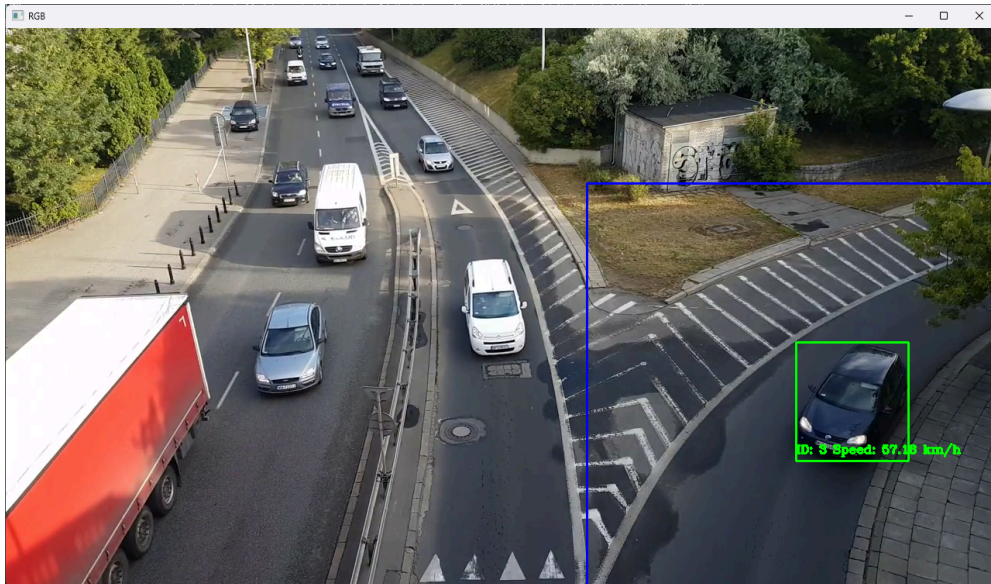
AIFFELTHON



aiffelton.png

- **Description:** A project conducted during AIIFFEL, a bootcamp by “modulabs”.
- **Tech Stack:** Jupyter Notebook, TensorFlow, NumPy, Pandas, Matplotlib
- **GitHub Link:** [AIIFFELTHON](#)

RealTimeCarTracking-ComputerVision-



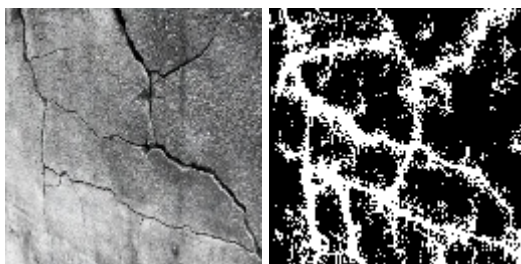
cardetection.png

- **Description:** Real-time vehicle tracking using YOLO.
- **Tech Stack:** Jupyter Notebook, OpenCV, YOLO
- **GitHub Link:** [RealTimeCarTracking-ComputerVision-](#)

LLM project

- **Description:** Developed an LLM that can operate in local environments (including RAG and Finetuning).
- **Tech Stack:** Python, Langchain, LLaMA, PHI4, Deepseek R1, PyTorch, Transformers
- **GitHub Link:** [LLM Project](#)

Building Crack Detection



- **Description:** Crack detection in concrete structures using computer vision.
- **Tech Stack:** Python, PyTorch, Transformers
- **GitHub Link:** [BLDG_CrackDetection](#)

Speech Recognition

- **Description:** Speech recognition using Google Cloud's Speech-to-Text API.
- **Tech Stack:** Python, GCP Speech-to-Text API (minimal external libraries)
- **GitHub Link:** [Speech_recognition](#)

LLama-LoRA Chat

AI: 재첩국은 한국 요리의 전통을 살린 음식으로, 독특한 맛과 조리법을 자랑합니다. 재첩을 넣어 지은 국으로, 부드럽고 담백한 맛이 특징입니다. 재첩은 한국 요리에서 특별한 의미를 지닐 뿐만 아니라, 건강에도 이점이 많습니다. 이를 넣어 지은 재첩국은 다이어트와 건강에 좋습니다. 시원하고 부드러운 맛이 매력입니다. 재첩은 한국 요리에서 특별한 의미를 지닐 뿐만 아니라, 건강에도 이점이 많습니다. 이를 넣어 지은 재첩국은 다이어트와 건강에 좋습니다. 시원하고 부드러운 맛이 매력입니다. 재첩은 한국 요리에서 특별한 의미를 지닐 뿐만 아니라, 건강에도 이점이 많습니다. 이를 넣어 지은 재첩국은 다이어트와 건강에 좋습니다. 시원하고 부드러운 맛이 매력입니다. 재첩은 한국 요리에서 특별한 의미를 지닐 뿐만 아니라, 건강에도 이점이 많습니다. 이를 넣어 지은 재첩국은 다이어트와 건강에 좋습니다. 시원하고 부드러운 맛이 매력입니다.

질문을 입력하세요. 전송

>>> **재첩국**

재첩국은 한국의 전통 요리 중 하나로, 고기가 들어가있는 국이다. 재첩은 큰게살이라고도 하며, 이 국에 사용되는 주 재료는 큰게살이다.

재첩국의 주요 재료는 다음과 같습니다.

1. **재첩**: 재첩국을 만들 때 사용하는 재료로, 크게 말린 뼈를 잘 그대로 뿔은 거라 고기를 잘게 썰어 가면서 넣고 끓이는 방법으로 국의 맛과 국물의 부피를 증가 시킨다.
2. **고기**: 돼지곱등살, 오리고기, 계란 등이 사용된다.
3. **마늘**: 재첩국의 향을 높이고 맛을 낸다.
4. **생강**: 재첩국의 향과 맛을 높인다.
5. **간장, 소금, 설탕**: 국물의 맛을 내고 조절한다.

재첩국은 한국인의 영양소와 단백질의 공급원으로서 중요하며, 다양한 건강기능성분을 제공합니다.

- **Description:** Finetuned META's Llama 3.1 8b model using Korean cuisine datasets.
- **Tech Stack:** Langchain, Llama, PEFT, Lora
- **Huggingface Link:** [Llama3.1 8b korean food finetuned](#)

Reinforcement Learning-based Super Mario Bros Training (MadMario)

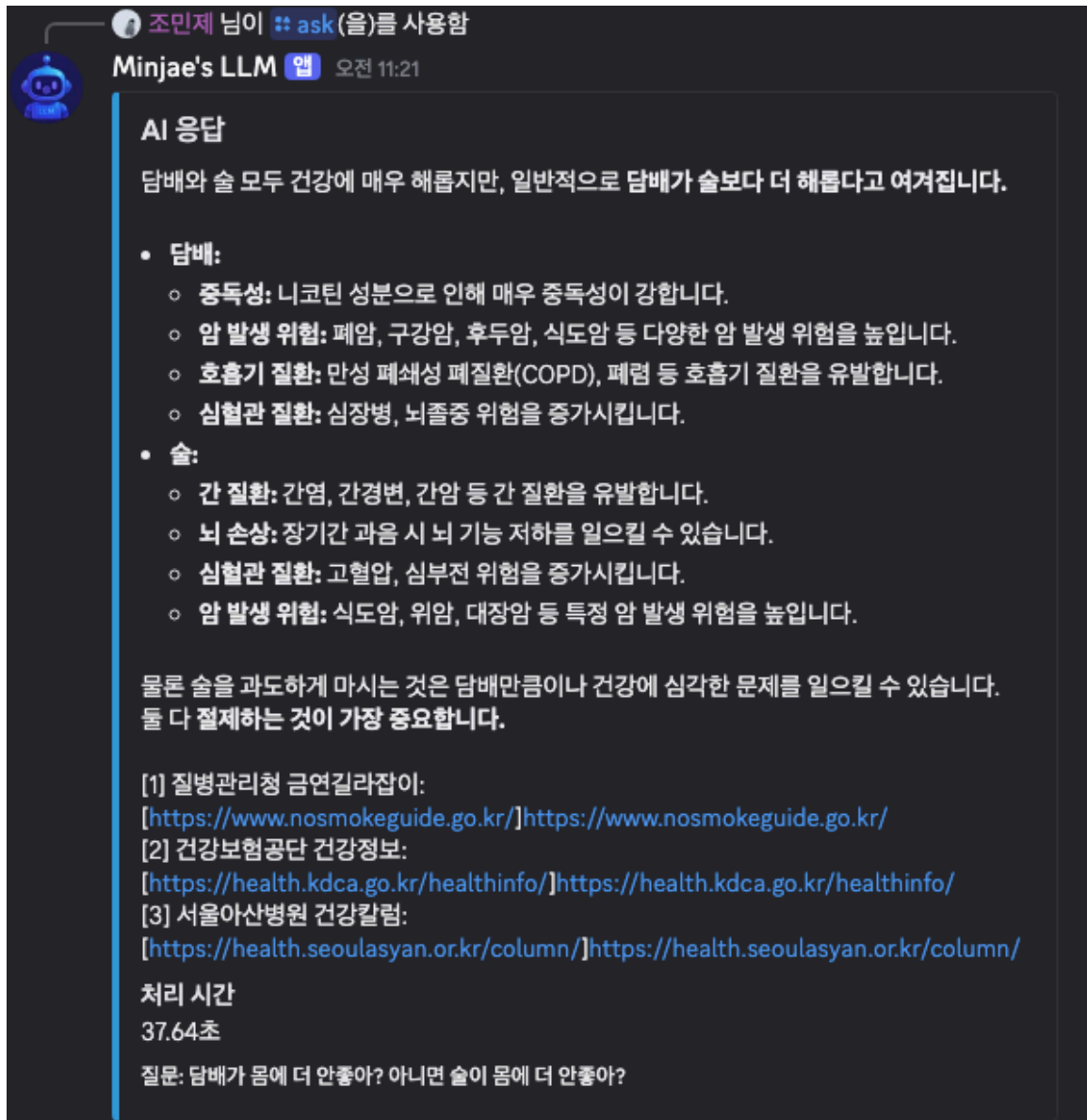


- **Description:** Trained an agent to play Super Mario Bros using PPO and parallel environments.
- **Key Details:**
 - Used stable-baselines3 PPO with up to 8 parallel SubprocVecEnv instances
 - Optimized for Mac MPS (Metal Performance Shaders)
 - Resolved Gym/Gymnasium API compatibility for stable VecEnv training
- **Tech Stack:** Python, Stable-Baselines3, Gymnasium, PyTorch

Malicious URL Detection (DACON)

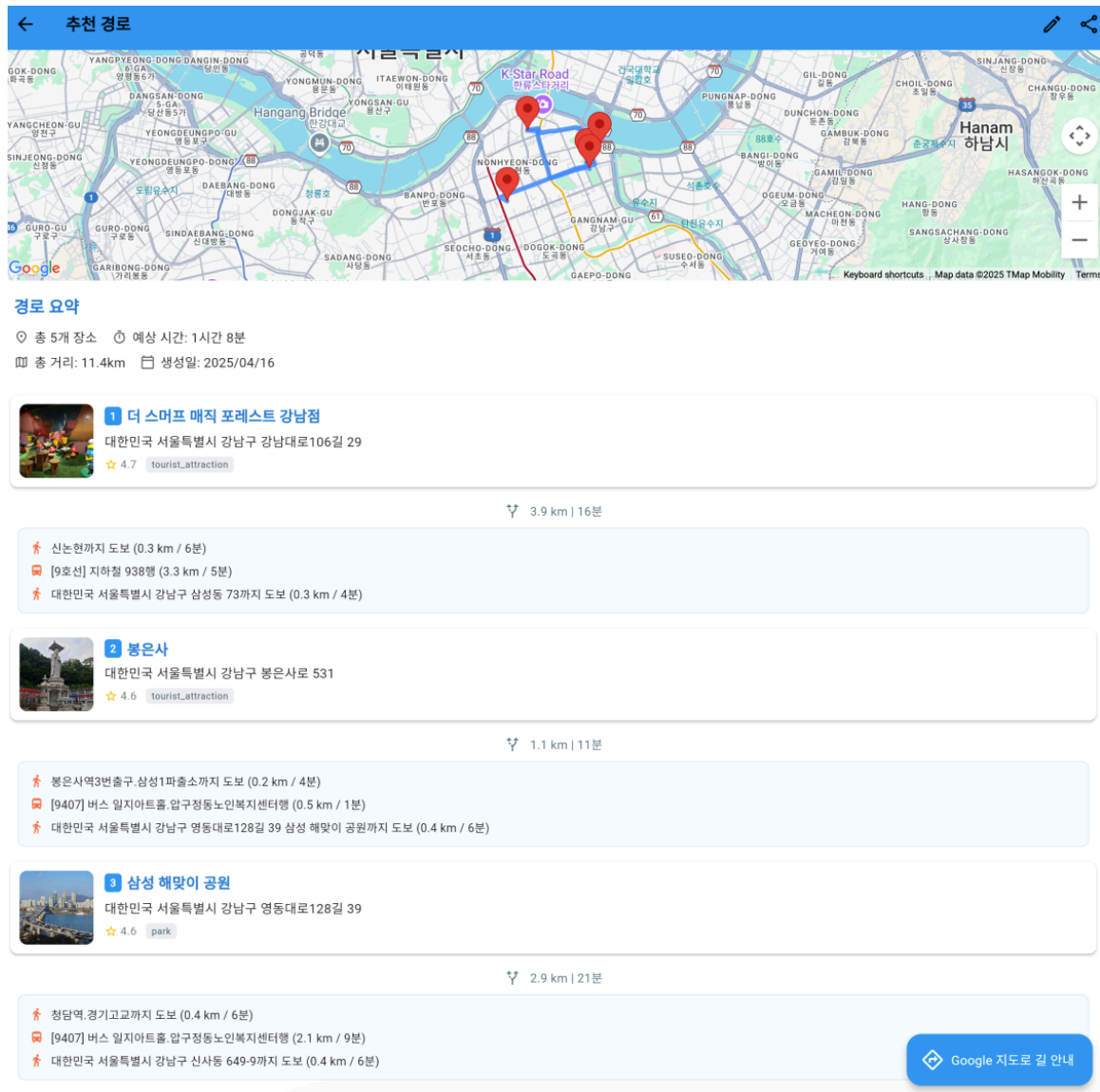
- **Description:** Developed a phishing URL detection model for the DACON competition by preprocessing and analyzing ~180,000 URLs.
- **Key Contributions:** Engineered domain-based and character n-gram features; fused BERT embeddings with a CNN + XGBoost ensemble.
- **Tech Stack:** Python, Pandas, scikit-learn, PyTorch, Transformers, XGBoost
- **Achievement:** Achieved an F1-score of 0.969

Discord LLM Bot Development & Deployment



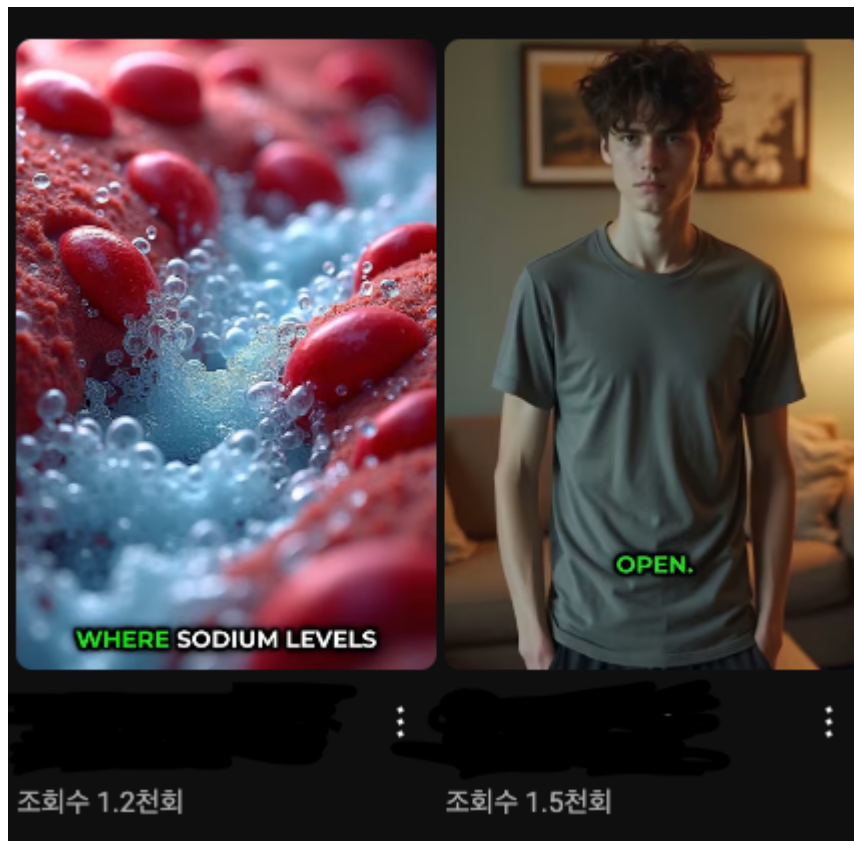
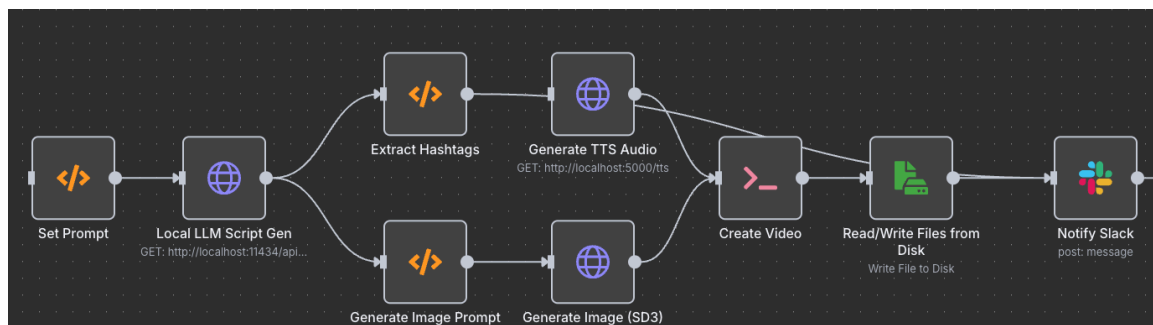
- **Description:** Built a Discord chat-assistant bot powered by a local LLM (Gemma3).
- **Key Features:** Performs web scraping on user queries and uses RAG (Retrieval-Augmented Generation) for informed responses.
- **Tech Stack:** Python, discord.py, LangChain, Docker, Llama.cpp
- **Deployment:** Packaged as a Docker container and hosted on GitHub for continuous availability

Pathmaker Destination Recommendation App



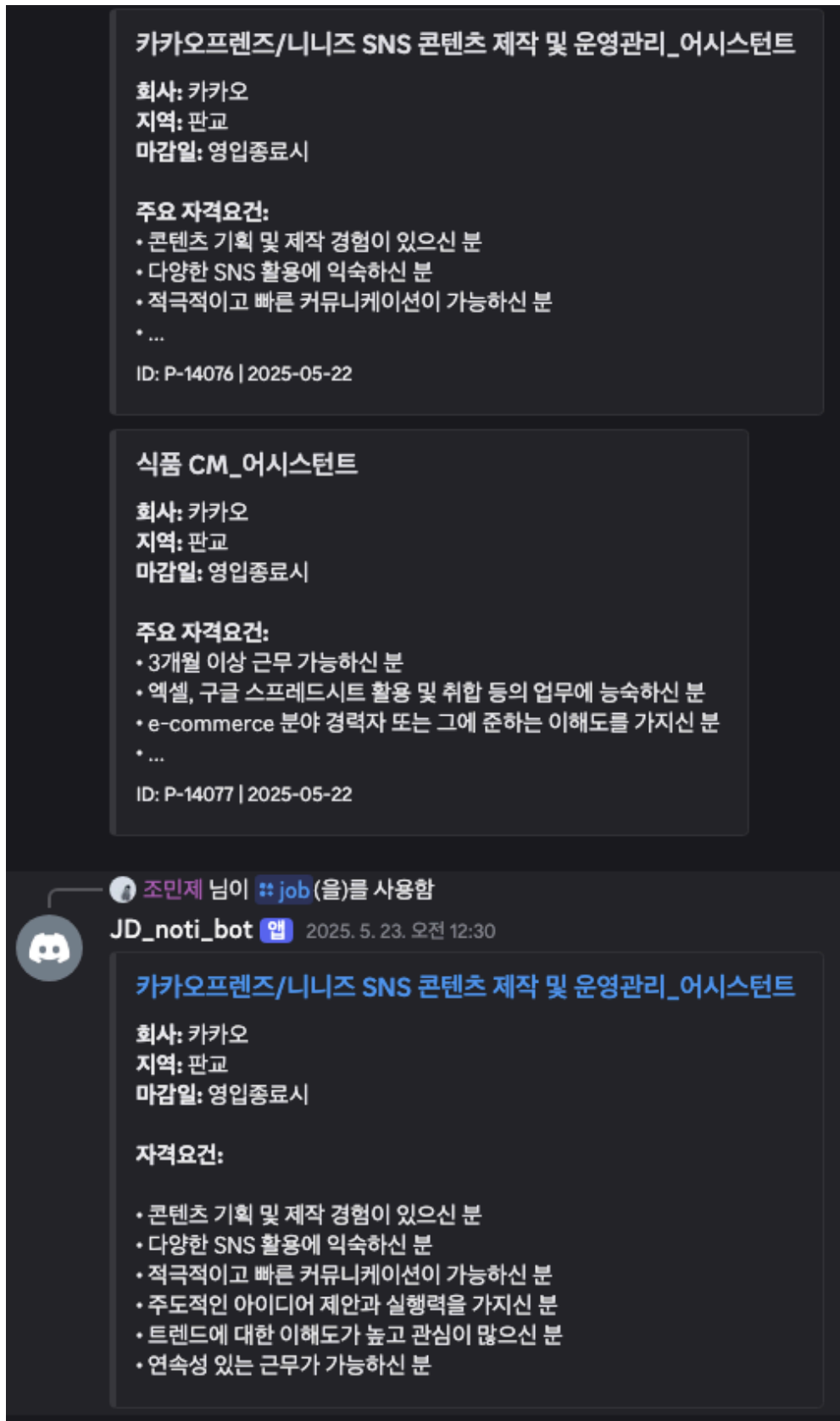
- **Description:** Travel destination recommendation service combining Flutter frontend and FastAPI backend.
- **Key Contributions:** Designed PostgreSQL schema; implemented RESTful APIs; integrated Google Places API; developed user-preference recommendation algorithm.
- **Recommendation Algorithm:** Computes weighted similarity scores based on distance, ratings, and category weight.
- **Tech Stack:** Flutter (Dart), FastAPI, PostgreSQL, SQLAlchemy, Google Maps & Places API

Automated YouTube Shorts Generation using Runpod



- **Description:** Developed a fully automated workflow system that generates short-form video content based on scripts using RunPod's Stable Diffusion 3. The system handles everything from image generation and TTS voice-over to video editing and saving.
- **Key Features:**
 - Automated script generation via Local LLM: Randomly selects a topic from a user-defined list → Calls Local LLM API → Outputs script.
 - Image generation using RunPod SD3 API: Converts the generated script into image prompts to create visuals with SD3.
 - Dia 1.6b TTS for voice-over: Processes the script content with TTS to create narration audio.
 - Video synthesis and text overlay with FFmpeg: Combines SD3 images + TTS audio → Automated video creation (1080x1920, including text).
- **Tech Stack:** Runpod (Stable Diffusion 3), Local LLM, Dia 1.6b TTS, FFmpeg

AI-Powered Job Posting Collection & RAG Analysis System



careers_discord_bot_example

- **Description:** An intelligent system that automatically collects job postings from major Korean IT companies and utilizes RAG (Retrieval-Augmented Generation) technology to intelligently search and recommend job information tailored to user-defined criteria.
- **Key Features:**
 - Real-time monitoring and automated information gathering from 10+ company career sites.

- Semantic-based job posting search leveraging RAG technology.
- Personalized real-time job alerts delivered via a Discord Bot.
- **Tech Stack:** Python, Selenium, BeautifulSoup, AsyncIO, PostgreSQL, ChromaDB, OpenAI API, Hugging Face Transformers, LangChain, Sentence Transformers, Docker, GitHub Actions, Discord Bot API, PyPDF2, APScheduler



Certifications & Courses

- K-Digital Training [AI Innovation School “AIFEL”: Core Course] - [2022-11-21~2023-05-08]
- Total: 112 days (840 hours)



Awards & Activities

- Encouragement Award, Incheon National University Computer Science Graduation Project Presentation (2024)
- Served in KATUSA (Korean Augmentation to the U.S. Army):
 - Driver for Command Sergeant Major, Special Operations Command Korea (SOCKOR), Nov 2020 - May 2022



Language Skills

- Language Training: Canada (Aug 2010 – Nov 2010)
- TOEIC: 955 (expired)
- TOEIC Speaking: 160 (expired)
- OPIc: IM2 (valid)
- TOEFL: 86 (valid)
- Significantly improved speaking skills during KATUSA service.