Jiin Kim

Undergraduate

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https://github.com/jiinkim-maker

PERSONAL DATA

- **Birth**: February 28, 2002, Republic of Korea
- **Nationality**: Korean

EDUCATION

Mar. 2020 ~ Present

Hankuk University of Foreign Studies

- Major: Biomedical Engineering
- Minor: Business
- Undergraduate Student **(Expected Graduation Date: February, 2025)**
- GPA: 3.48/4.5

July. 2022

University of Guam (UOG)

- Language courses, Summer 2022, 3 credits

RESEARCH INTEREST

- Computer Vision (Object Detection, Segmentation, Pattern/Feature recognition)
- Image & Video Processing
- Autonomous Driving

RELEVANT COURSEWORK

- Computer Programming & Experiments 1, 2 [Spring, Fall 2020]
- Data Mining [Spring 2022]
- BME Circuit Analysis & Laboratory [Spring 2022]
- BME Signal and System [Spring 2023]
- Biomedical Artificial Intelligence [Spring 2023]
- Advanced Medical Image Processing & Laboratory [Spring 2024]

- Biomedical Signal Measurement System Design & Laboratory [Spring 2022]
- Lab for BME Capstone Design [Spring 2024]

WORK EXPERIENCE

Jul/2023 - Dec/2023

Internship at Wellysis Corporation - Strategic Marketing Department | Korea

- ECG Data Curation
- Data Analysis Support & Statistical Operations
- Market Intelligence: Marketing and Trend Research

AWARDS

Excellence Award

November 26, 2022
- 2022 Data Creator Camp Contest
- 2022 데이터 크리에이터 캠프, 한국지능정보사회진흥원장상(우수상)

November 30, 2022
- 2022 Large-scale OCR AI Hackathon
- 2022 대규모 OCR 인공지능 학습데이터 해커톤, AI 학습모델 개발 부문(우수상)

August 10, 2022
- Business Analysis Contest
- 2022 파란사다리 사업 기업 분석 경진대회(우수상)

December 2, 2023
- 2023 Data Creator Camp Contest
- 2023 데이터 크리에이터 캠프, 한국지능정보사회진흥원장상(우수상)

Completion of Finals

October 13, 2023
- 2023 GBT Hackathon Challenge
- 2023 GBT Hackathon Challenge (Dacon), 본선 수료

PROJECT

1. **Integration of RGB and FIR Images for Enhanced Human Detection in Disaster Scenarios**

- **Graduation Thesis Project**: Biomedical Engineering [2024]
- **Purpose**: To enhance human detection efficiency in various disaster scenarios by integrating RGB and FIR images using Multispectral Imaging on a UAV platform.
- **Technical Keywords**: Multispectral Imaging, YOLO, Human Detection
- **Description**:
  - This study leverages the complementary nature of RGB and FIR to improve human detection performance in complex environmental conditions.
  - Utilized the YOLO (You Only Look Once) model to experiment with the Multispectral Ensemble method and provided integrated results.

    - Employed image alignment techniques such as ORB, BFMatcher, and sharpening to create accurately aligned RGB-FIR Pair Images.
    - Attempted to ensure that incoming images from the cameras are accurately aligned, allowing the unified screen to display the detected person's location.
- **Datasets**: NII-CU Dataset, Visdrone Dataset

2. **AI that Understands Food Images**
    - **Data Creator Camp Contest**, December 2, 2023
    - **Purpose**: Multi-class classification using K-food datasets.
    - **Technical Keywords**: EDA, Data Preprocessing (augmentation, sampling), Tuning, Ensemble, Performance Experiments, Case Analysis
    - **Note**: Conducted experiments to improve model performance by studying papers.

3. **Developing an Illustration (Sketch Image) Search AI Model for Designers**
    - **Data Creator Camp Contest**, November 26, 2022
    - **Process**:
        1. Removal of duplicate images using the MD5 Hash algorithm
        2. Removal of real images through classification using object detection
        3. CNN Model, finding optimal parameters
        4. Performance Optimization
    - **Technical Keywords**: Multi-class Classification (CNN), Object Detection (YoloV5), Sampling for Class Imbalance

4. **Optical Character Recognition Deep Learning for the Blind**
    - **Class Term Project**: BME Artificial Intelligence [Spring 2023]
    - **Purpose**: To develop a model that reads text on product packaging and detects harmful or desired ingredients for the visually impaired.
    - **Technical Keywords**: Data Preprocessing, CRNN, Text Recognition, Model Performance Experiments (parameter)
    - **Datasets**: AI-hub Dataset of Cosmetic Packaging (image, JSON)

5. **ASL Translation Deep Learning Model for the Hard of Hearing**
    - **Class Term Project**: BME Artificial Intelligence [Fall 2022]
    - **Purpose**: To develop a model that recognizes alphabet letters from hand shapes for the hard of hearing.
    - **Technical Keywords**: Data Labeling, CNN (ResNeXt50), Parameter Tuning, Optimization
    - **Datasets**: Kaggle ASL dataset and self-taken photos

6. **Subway Congestion Map of Seoul and Congestion Prediction**
    - **Class Term Project**: Data Mining in Bioinformatics [Spring 2022]
    - **Purpose**: To visualize and predict busy times and crowded stations in the Seoul subway.
    - **Technical Keywords**: Data Preprocessing, R, Visualization, Regression Prediction
    - **Datasets**: Public datasets of Seoul subway status