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"The important thing is an unbreakable heart."

## **Education**

#### **KwangWoon University**

Seoul, S.Korea

B.S. IN INFORMATION CONVERGENCE, MAJOR IN DATA SCIENCE

Mar. 2018 - Feb. 2024 (Expected)

Total GPA of 4.32 / 4.5, Major GPA of 4.32 / 4.5 (Credits taken: 161/133)

## **Internships**

#### **Process-Aware Data Analytics Lab**

Seoul, S.Korea

UNDERGRADUATE RESEARCHER

July. 2022 - July. 2023

- Data Science research based on Process mining and Text mining
- · Participated in research paper seminars

# **Project Experience**

#### Cosmetic recommendation application through text mining

Seoul, S.Korea

Mar. 2023 - Nov. 2023

TEAM LEADER, PRESENTER

• Capstone design project for graduation work for one semester

- Development of a system that recommends cosmetics suitable for customers through a keyword-based search function.
- LIME was used to interpret the results of sentiment analysis, and a dictionary of keywords was constructed through Fasttext.
- · LSTM was used for sentiment analysis, and the positivity and negativity of keywords were confirmed.

#### Development of SW static test false alarm automatic classification system

Seoul, S.Korea

TEAM MEMBER

June. 2022 - Feb. 2023

- Industry-University Linkage SW Project of 2022-Fall Semester
- Analyzed given D2A data, preprocessed code data, built deep learning model to detect false alarms generated by static analysis tools.
- Studied static analysis reading paper 'A Prioritizing Security Alerts DoD Case Study'

#### Dacon Basic Competition, a soccer player's prospect prediction

Seoul S Korea

INDIVIDUAL COMPETITION

Nov. 2022

- Prediction of promising players using the ability information of players stored in FIFA 22
- Through hyperparameter tuning, ensemble and adjusting the threshold of the prediction probability, Macro F1 Score raised to 77.47%.
- Realized how to improve Macro F1 Score when there is a slight imbalance

#### Dacon Basic Competition, travel product application prediction

Seoul, S.Korea

INDIVIDUAL COMPETITION

Nov. 2022

- · Prediction of whether to apply for travel products through basic information of customers and information related to travel products.
- Through hyperparameter tuning and stacking ensemble, the accuracy raised to 91.88%.
- · Generate derived variables that have a significant effect on prediction, and select variables using feature importances.
- Studied Machine Learning Basic Algorithm (LR, RF, XGB, LGBM, ETC)

#### Song Recommendation system based on user's emotions

Seoul, S.Korea

TEAM MEMBER, PRESENTER

• Term project for course True Light Design Semester of 2022-Spring semester

Mar. 2022 - Jun. 2022

- Collected music data through Crawling and applied sentiment analysis on user's SNS posts.
- · Songs were recommended based on predicted emotions, and cosine similarity was used in the song recommendation process.
- Deployed as a Chrome extension for practical use

## Topic Modeling by rating for [today's house] review for self-employed students

Seoul, S.Korea

TEAM LEADER, PRESENTER

April. 2022 - June. 2022

- Term project for course Text Mining of 2022-Spring semester
- Sentiment Analysis is performed to identify positive/negative reviews and review ratings are reset based on the results of sentiment analysis.
- · Topic modeling was conducted with reset review ratings, and insights were derived from important topics for each rating.

KISOO KIM · CURRICULUM VITAE NOVEMBER 23, 2023

## Prediction of presence or absence of heart disease using imbalanced data

Seoul, S.Korea

Team Leader, Presenter April. 2022 - June. 2022

- Term project for course Machine Learning of 2022-Spring semester
- Found a preprocessing technique suitable for the data by looking for methods to replace missing values, scaling for continuous variables, and encoding methods for categorical variables.
- Studied Machine Learning model techniques such as Random Forest, LightGBM(LGBM), Support Vector Machine(SVM), and applied them to tableau data.
- Interpretation of the predictive results of the machine learning model was performed using interpretable algorithms (XAI) such as PDP, ICE, and SHAP.
- Realized that when evaluating performance, selecting suitable performance indicators for the problem to be solved, such as precision and f1 score, as well as accuracy.

#### **Running application development for runners**

Seoul, S.Korea

Oct. 2021 - Dec. 2021

INDIVIDUAL PROJECT, PRESENTER

- Individual Project for course Mobile Programming of 2021-Fall semester
- · As a motif of 'Nike Run' application, it was implemented to record running and walking separately.
- SQLiteDataBase, Intent, ListItem, MenuBar was used for measuring and searching records.

#### Others

**Create a dashboard to view trends in e-commerce** (Using Python and Tableau)

**Creation of Gwangjin-gu traffic status dashboard** (Using Python and Tableau)

Creation of national hospitals, clinics and pharmacies dashboard (Using Python and Tableau)

Implementation of Algorithms to solve imbalance problem in Machine Learning (Using PySpark)

Analysis of the Venue network of people living in Seoul (Using Social Network methodology)

**Development of Psychological Propensity prediction Algorithm** (DACON, Using Python)

Dashboard of changes in people's travel style before/after COVID-19 (Using JavaScript, React and d3.js)

**Prediction of Shopping Mall review rating** (DACON, Using Python)

**Analysis of Denver's crime rate** (Using Excel and Tableau)

## **Awards & Honors**

#### **AWARDS**

2023.11	<b>Encouragement Award</b> , Kwangwoon University graduation work exhibition	Kwangwoon Univ.
2023.09	<b>Popularity Award</b> , Creating educational materials for beginners in the field of artificial intelligence	Dacon
2023.06	<b>3rd place</b> , Dacon Basic in predicting car price	Dacon
2023.03	<b>2nd place</b> , Dacon Basic in predicting wind power generation	Dacon
2023.02	<b>Encouragement Award</b> , Industry-University Linkage SW Project Competition	Kwangwoon Univ.
2022.12	<b>3rd place</b> , Dacon Basic in predicting soccer players promising	Dacon
2022.09	<b>2nd place</b> , Dacon Basic in predicting travel product application	Dacon
2019.04	<b>Dean's List</b> , for Academic Excellence	Kwangwoon Univ.
2018.09	<b>Dean's List</b> , for Academic Excellence	Kwangwoon Univ.

#### **HONORS**

2023	Semester High Honors, Awarded to students with high achievements throughout the semester	Kwangwoon Univ.
2022	Semester High Honors, Awarded to students with high achievements throughout the semester	Kwangwoon Univ.
2021	Semester High Honors, Awarded to students with high achievements throughout the semester	Kwangwoon Univ.
2019	Semester High Honors, Awarded to students with high achievements throughout the semester	Kwangwoon Univ.
2019	<b>English Excellence Scholarships</b> , Awarded to students for excellence in 'TOEIC ALL CARE' program	Kwangwoon Univ.
2018	Semester High Honors, Awarded to students with high achievements throughout the semester	Kwangwoon Univ.

# **Extracurricular Activity**

## **Student Association Big Data Club BOAZ**

Seoul, S.Korea

CORE MEMBER

Jan. 2023 - Jan. 2024 (Expected)

- Working as a club Member in Visualization and Analysis sessions.
- · Learned Tableau for basic visualization, created a dashboard that informs the hospital and pharmacy dashboard status.
- As the Leader at the study group 'Deep Learning Basic with PyTorch', learned about the basic theory of deep learning and implemented it using PyTorch.

#### **Student Association presentation club SPLING 47th**

Seoul, S.Korea

COORDINATOR Jan. 2022 - June. 2022

- Served as a mentor to help members improve their presentation skills.
- As the head of the HR team, understanded the internal environment from the perspective of club members and managed internal rules.

#### **Student Association presentation club SPLING 45th**

Seoul, S.Korea Aug. 2021 - Dec. 2021

• Improved the ability for creating Powerpoint and presentation skills.

• Received an excellent completion award and a perfect attendance award while participating in club activities.

#### **Education Donation Program 'Sok Sok Camp'**

Seoul, S.Korea

TEAM LEADER

**CLUB MEMBER** 

Apr. 2021 - Sep. 2021

- Taught coding (entry) to 6th grade students during summer vacation.
- · As a team leader, planned the training curriculum and oversaw accounting and administrative tasks necessary for training.
- · Learned how to improve the quality of education and the importance of communicating with team members.

# **Teaching**\_

TEACHING ASSISTANT

### J's plan Mathematics Academy

Seoul, S.Korea

May. 2021 - Nov. 2023

INSTRUCTOR

• Taught math to middle school and high school students

- Covered all middle school math and Probability & Statistics, Calculus in preparation for college entrance exams.
- Created materials for class and prepared test questions.

#### **Software Summer & Vacation School**

Seoul, S.Korea

Jan. 2022 - Feb. 2023

- Short courses of Python Programming, C Programming in Software Convergence College
- Assisted in programming practice, answered individual questions and supervised exams.

Teaching Assistant Seoul, S. Korea

DISCRETE MATHEMATICS Sep. 2022 - Dec. 2022

- Course in Department of Information Convergence for freshman
- · Marked midterm and final exam, supervised exams

Individual tutoring Seoul, S.Korea

**INSTRUCTOR** Apr. 2018 - Oct. 2019

- Taught math to middle school and high school students
- Covered equations, functions, and sets that are the basics of high school mathematics.
- · Created handmade textbook and mock exam for class.

## Skills

**Programming** Python, R, C, Java

**Deep Learning** Skicit-learn, PyTorch, Keras, TensorFlow

**Data Analysis** Numpy, Pandas, Matplotlib, Seaborn, Tableau, NodeXL

#### Others

#### **English Proficiency**

- 2023.02 TEPS 341
- 2018.09 TOEIC 840

#### Certification

- · 2021.04 SQLD
- 2021.04 Korean History Proficiency Test Level 1
- 2019.10 Linux Master Level 2