MYNA LIM

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EDUCATION

Korea Advanced Institute of Science and Technology (KAIST), Daejun, Korea 01/2025 -
M.S. in Data Science

Cornell University, College of Computing and Information Science, Ithaca, NY 08/2021 - 05/2024
B.S. in Information Science (Data Science & Interactive Technology Concentration & UX)
Major coursework:
Introduction to Rapid Prototyping and Physical Computing, Obj-Oriented Prog & Data Struc, Tools for Operations Research: Machine Learning and Data Science, Biomedical Data Science, Data-Driven Web Application, Language and Information, Interactive Information Visualization, Human-Computer Interaction Design, Designing Tech Social Impact, Computer-Mediated Communication, Introduction to Data Science, Intro Design & Programming for Web, Consequences in Computing, Communication and Technology
Math courses: Adv Calc/Differential Eq, Linear Algebra, Multivariable Calculus for Engineers, Statistics for Biology
Award: Spring 2023 Dean's List, Fall 2023 Dean's List, Spring 2024 Dean's List

Bucknell University, Lewisburg, PA 08/2020 - 06/2021
Major: Biomedical Engineering

Sammamish High School, Bellevue, WA 2017 - 06/2020
Major coursework: Calculus I, Calculus II, Calculus III/IV, AP Computer Science A
Award: Washington State Honors Award (GPA: 3.98/4.00)

RESEARCH INTEREST

My research interest is to exploit the intersection of Data Science and various fields such as social and public health. Specifically, how data analysis and ML/DL models can be applied to elicit ubiquitous real-world solutions. Within this realm, my academic pursuits center on data visualization, wearable technology, and artificial intelligence.

PUBLICATIONS

†: co-1st authors, *: co-corresponding authors

- Hyeontae Jo†, **Myna Lim**†, Hong Jun Jeon, Junseok Ahn, Saebom Jeon, Jae Kyoung Kim*, Seockhoon Chung*, Data-driven Shortened Insomnia Severity Index: A Machine Learning Approach. *Sleep and Breathing* (2024)

PROJECTS

Friend or Foe: How Insects See Their Peers - ML Research Assistant 08/2024 - current

Institute for Basic Science, South Korea

In collaboration with the LMU-Munich - Institute of Medical Psychology

- Applied advanced Machine Learning techniques to predict and identify *Drosophila* (fruit fly) courtship behaviors
- Analyzed 5 treatment *Drosophila* datasets with 26 geometrical X variables and 18 courtship-related Y time series variables
- Utilized predictive models to extract insights from complex datasets, enhancing understanding of insects interaction dynamics

Shortening PANSAM Survey Items - ML Research Assistant 08/2024 - current

Institute for Basic Science, South Korea

In collaboration with Asan Medical Center

- Integrated Exploratory Factor Analysis (EFA) to categorize survey items and employed Confirmatory Factor Analysis (CFA) to validate these categorizations
- Implemented XGBoost for feature selection to streamline and shorten the survey with data-driven decisions

INTERNSHIP

Institute for Basic Science (Biomedical Mathematical Group) - Undergrad. intern 06/2023 - 08/2023

Institute for Basic Science, South Korea

- Used XGBoost model to shorten Insomnia Severity Index (ISI) collaborating/communicating with Asan medical center (#1 South Korea hospital)
- Collaborate and assist Prof. Jae-Kyoung Kim (KAIST, Dept. of Mathematics) with ISI shortening Machine learning models
- Collaborate with the first author of *A machine learning-based simple questionnaire for predicting the risk of sleep disorders* to incorporate InBody data to their published sleep disease detecting algorithm with 2,500 medical data from Samsung medical center (#2 South Korea hospital)

Machine Learning Research Lab - Undergraduate Assistant 05/2022 - 8/2022

Korean National University of Transportation, South Korea - Computer Science department

- Used Deep Learning models to classify 70 MRI scans (test datasets) with four different stages of Alzheimer's disease using 2600 train datasets.
- Used CNN models (ResNet50V2, VGG16, DenseNet121) with TensorFlow library
- Built Image Classification Models (Pre-Processing, Loss, Optimize, Model Evaluation)

EXPERIENCE & EXTRACURRICULAR

Cornell Data Journal 09/2023 - 05/2024

Project team leader

- Facilitate brainstorming sessions and delegate project tasks effectively
- Develop and distribute campus-wide surveys to gather comprehensive feedback
- Provide guidance to teammates on data preprocessing techniques and recommend suitable data visualization approaches
- Showcase the data journal produced by our team during at a semester symposium led by Cornell Data Journal

Cornell Taekwondo Club - ECTC D1 01/2020 - 05/2024

- Weekly Sparring/Poomsae practice (5 hours per week)
- Attended regional competitions against other schools (MIT, Brown, etc.)
- Taekwondo black belt (3rd degree)
- State Champion for 2019 USA WA Championship

- Gold Medal in WA state Taekwondo Governor's CUP (2018&2019)

Cornell Thread Magazine 01/2021 - 05/2024

Creative Team Director

- Played an integral role as a member of the creative team in the college thread magazine club.
- Establish a central concept and theme for the magazine, fostering discussions among various roles
- Collaborated with fellow team members to brainstorm, plan, and execute innovative content ideas.

Sea Scout Member 07/2017 - 2021

- Elected a leadership role called "boatswain"
- Participated in 10-days summer cruise in 2018, 2019 and Seal Program (10-days, New York)
- Washington State Boater Education Card

ADDITIONAL SKILLS

- Python
  - TensorFlow
- Java
- C++
- Machine Learning
- Deep Learning
- NLP
- SQL
- Tableau
- HTML
- CSS
- R
- JavaScript
  - D3
- Arduino
- Autodesk Fusion
- 3D printing
- Cytoscape
- MS Office
- Statistics
- Bilingual (English, Korean)