

Education

- 09.2024 – **M.S. in Data Science, Korea Institute of Science and Technology**
Present **Courses:** Neuroscience-Inspired AI, Recommender Systems & Graph Machine Learning, Computational Neuroscience, Dynamic Programming & Reinforcement Learning, Convex Optimization, Linear Systems, Introduction to Mathematical Biology
Course projects
 - *Spatial and Temporal Topology in ADHD Brains*
 - *Modeling Attention-based Recall in an Egocentric Navigation RL Task*
 - *Modeling Frequency-Dependent Neurotransmitter Selection (SV vs. LDCV) in a Single Neuron (CGRP_{PBel})*
 - *PostalGNN: Seoul Real Estate price Prediction*
 - *Paper Study on "Generate What You Prefer: Reshaping Sequential Recommendation via Guided Diffusion (Yang et al.)"*
 - *GNN-RL Algorithmic Alignment - Paper Study on "Continuous Neural Algorithmic Planners (He et al.)"***Prospective thesis title:** *Investigating controllability and observability reconfiguration in agent and human reinforcement learning*
- 10.2018 – **B.A. in Mathematics, University of Cambridge**
07.2021 **Courses:** Differential Equations, Vectors and Matrices, Vector Calculus, (Complex) Methods, Variational Principles, Dynamics and Relativity, Dynamical Systems, Quantum Mechanics, Fluid Dynamics I & II, Classical Dynamics, Waves, Statistical Physics, Cosmology, Numbers and Sets, Groups, Linear Algebra, (Numerical) Analysis, Probability, Statistics, Markov Chains
Part II CATAM project choices: *Phase and Group Velocity; Differential Equations for Non-linear Oscillators* (numerical methods for dynamical systems in Fluid Dynamics and Mechanics)

Work Experience

- 06.2024 - **Research Assistant (Contract), Medical Data Analytics Support, Yonsei Healthcare System, S.Korea**
08.2024
 - Conducted data extraction and preprocessing of electronic medical record (EMR) data for downstream analysis
 - Developed LLM-based codes to generate radiology reports from chest X-ray images
 - Designed chest X-ray data contamination detection problem sets for an internal data science competition**Consultant, Data & Analytics, EY Consulting, S.Korea**
- 07.2023 – **E-Commerce Marketing Strategy, Electronics Industry**
05.2024
 - Conducted customer experience journey funnel and performance marketing analysis across 20+ e-commerce platforms.
 - Published monthly reports outlining optimal marketing strategies with pricing and promotion recommendations
 - Identified action items for promotions, operations, and customer sentiment during new product launches
 - Established marketing KPIs, targets and monitoring processes across 70+ global branches
- 01.2023 – **Online Data Dashboard, Electronics Industry**
07.2023
 - Automated the full process of data collection, cleansing, and visualization for dashboards
 - Developed and optimized API-based crawling scripts and data preprocessing SQL queries
 - Explored highly inconsistent and unstructured product title data; designed and implemented a rule-based logic for assigning product series to relevant product titles
- 07.2022 – **Digital Transformation PMO, Chemical Industry**
12.2022
 - Performed correlation/causality analysis on 50+ financial datasets to design a market risk indicator
 - Conducted econometric tests (VaR/GARCH) and validated the implementation of exchange rate prediction
 - Reviewed the performance of carbon credit prediction model (XGB/RF + Prophet) and suggested fine-tuning strategies
- 01.2022 – **Personalized Marketing Strategy, Retail Industry**
06.2022
 - Performed EDA on customer transaction and relation data to characterize consumer behavior
 - Designed 50+ customer indices (e.g. support, confidence, lift) with validation pipelines and SQL integration
 - Contributed to development of a TF-IDF-based product recommendation logic
- 10.2021 – **Intern, Data & Analytics, EY Consulting, S.Korea**
01.2022
 - Designed dashboards and BI tools for child sponsorship and customer service management
 - Conducted research and expert interviews for visitor estimation and pricing strategies

Programming Skills

Python, SQL, MATLAB