Tyler (Tae Wook) Kim

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Education

Columbia University, School of Engineering and Applied Science — New York, NY
B.S. Candidate in Computer Science — *Sept. 2022 – June 2026*

Experience

Software Engineer — July 2021 – July 2022
FAIKERZ, legal-tech startup based in Korea — *Remote*

- Worked on counterfeit detection models for fashion brand clients and live-tested against Korean e-commerce sites
- Implemented hierarchical image classification model for CH*NEL products in PyTorch. Combined EfficientNet and Local Classifier per Parent Node technique to achieve 85.2% accuracy; 19.2% improvement from previous model
- Built a keyword analysis API in Python and Flask that detects anomalies in keyword/price distribution for online products. Filtered out 30% anomaly samples from initial dataset, ultimately improved model efficiency by 40%
- Built a clustering model that categorizes online products based on price, supplier, trademark, and distribution path

Member, Multi-Agent Reinforcement Learning Team — March 2021 – Aug. 2021
DIYA, KC ML2's Machine Learning Club — *Seoul, Korea*

- Studied, presented, and implemented two reinforcement-learning papers every week
- Co-implemented PPO/DQN algorithms with PyTorch in Pommerman and Snake MARL environment as baseline models

Project Lead, COVID-19 in South Korea Team — April 2021 – Sept 2021
CORONAVIRUS VISUALIZATION TEAM — *Remote*

- Initiated and led a 30-person team COVID-19 in South Korea to study the reasons behind Korea's success in handling the pandemic
- Generated and published data analysis reports and infographics of Korea's COVID response

Participant — June 2019 – Aug. 2019
61st UF STUDENT SCIENCE TRAINING PROGRAM — *Gainesville, FL*

- Implemented a histogram layer for texture analysis CNN model with PyTorch in Dr. Alina Zare's Lab
- Wrote and presented a research paper and poster titled *Histogram Layer for Texture Classification*; Won the Best Research Paper Award.

Projects

Scraft.ai | *Typescript, NextJS, Django, React Query, TailwindCSS* — Jan. 2022 – Present

- Building an AI-powered essay planner that can generate essay structure from prompts and suggest relevant articles based on writing context

Tutor Scheduler | *Django, PostgreSQL, Docker* — Nov. 2021 – June 2022

- Built a web-based tutor appointment scheduler for alma mater using Django and PostgreSQL
- Implemented custom user authentication, tutor-session CRUD feature, and profile page with different user groups
- Deployed experimentally for a single semester, serving 500+ students and tutors to easily keep track of upcoming and past sessions

Orbitron | *Arduino, Mathematica, C#* — Jan. 2018 – June 2020

- Built a vehicle with a spherical wheel that implements a 4 wheel independent steering/driving system with Arduino and C# Winform Application
- Developed a unique control algorithm in Mathematica and wrote/presented a paper in front of school body; Accepted as one of three members in Kent Guild; Won 7 awards at CT Science Fair
- KR. PATENT 10-2268833, *"Driving System and Method of Vehicle,"* Issued June 18, 2021

Technical Skills

Languages: Python, Java, TypeScript, HTML/CSS
Frameworks: React, Django, Flask, TailwindCSS, NextJS, Redux
Libraries: pytorch, pandas, numpy