Tyler (Tae Wook) Kim

929-206-7553 | tk2891@columbia.edu | github.com/tylertaewook | tylertaewook.com

EDUCATION

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

TECHNICAL SKILLS

Languages: Python, Java, TypeScript, HTML/CSS
Frameworks: React, Django, Flask, TailwindCSS, NextJS, Redux
Libraries: Pytorch, Pandas, Numpy

EXPERIENCE

Software Engineer Intern — 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

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 reports and infographics of Korea's COVID response using matplotlib and tableau

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.

INDEPENDENT PROJECTS

Scraft.ai | *Typescript, NextJS, Django, React, Redux, TailwindCSS* — Jan. 2022 – Present
- Built an AI-powered writing tool that generates questions from prompts and suggests relevant articles based on writing context; Acted as a solo executor from start to finish in marketing/design, development, and management
- Continuously improving the app by writing UI/UX research cases, listening to users' feedback, and growing Instagram/discord writing community. 1k+ active users, 5k+ drafts written, 100k+ questions generated

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 keep track of upcoming and past sessions easily

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; PATENTED 10-2268833 *"Driving System and Method of Vehicle"* (June 18, 2021)
- 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