Tyler (Tae Wook) Kim

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Education

Columbia University, The Fu Foundation School of Engineering and Applied Science – New York, NY
- B.S. in Computer Science — Sept 2020 – June 2026
- Leave of Absence — Nov 2020 – Aug 2022

Experiences

***Software Engineer,* Faikerz** — **July 2021 – Present** | Remote
- Built three counterfeit detection model/APIs; live-tested against Korean E-commerce sites and global fashion brand clients
- *keyword-price-api* began as a personal project and was acquired by *Faikerz* for $5k along with an SWE position
  - ***keyword-price-api*** | Tech: selenium, flask, mongodb
  - Built a keyword analysis tool/API: extracts keywords from e-commerce items in different categories and provides keywords/price distribution information with user's feedback input; Built a custom web-crawler to scrape data
  - Embedded to Faikerz's main model as a filter to screen ~40% items from the training dataset which increased overall detection accuracy by **26%** and computation time by **33%**

***Member,* DIYA–KC ML2's Machine Learning Club** — **March 2021 – Aug 2021** | Remote
- Presented and code-reviewed two relevant papers in the Multi-Agent Reinforcement Learning (MARL) team every week.
- Co-implemented PPO/DQN algorithms with PyTorch in *Pommerman* MARL environment as baseline models.

***Project Lead,* Coronavirus Visualization Team** — **April 2021 – Sept 2021** | Remote
- Initiated and led a 30-person team *COVID-19 in South Korea*; published data analysis reports and infographics of Korea's COVID response; Acknowledged in Kent Quarterly, the alumni magazine for Kent School.

***Participant,* 61st Annual UF SSTP** (Student Science Training Program) — **June 2019 – Aug 2019** | Gainesville, FL
- Assisted ML texture analysis research in Dr. Alina Zare's lab by implementing deep network models in PyTorch and conducting various experiments with different parameters
- Wrote and presented a research report titled *'Histogram Layer for Texture Classification*' and received the best research paper award among participants

Personal Projects

drft.ai | Tech: react, typescript, django, tailwindcss — **January 2022 – Present**
- Building a web-based essay planner & writing template sharing platform

tutor-scheduler-django | Tech: django, postgresql, docker — **November 2021 – Present**
- Building a peer tutor scheduling web service for alma mater Kent School; Implemented features: auth-login/profile system, appointment CRUD, admin panel for teachers to refer students to appointments.
- Wrote unit tests and deployed using docker-compose and AWS.

project-orbitron [video-portfolio]| Tech: arduino, C#, mathematica — **January 2018 – June 2020**
- Built a vehicle with a spherical wheel that implements a 4 wheel independent steering/driving system with Arduino/C#.
- Developed and implemented a novel control algorithm in Mathematica and presented *'Intuitive Control Algorithm Development of 4WIS/4WID Using A SpaceMouse'* in front of the school body; Won 7 awards at CT Science Fair;
- KR. PATENT 10-2268833, "*Driving System and Method of Vehicle*," Issued June 18, 2021

taewook.exe*, *Creative Coding Initiative | Tech: processing, OpenGL, Photoshop — **November 2021 – Present**
- Experimenting creative coding as a contemporary graphic art medium; Uses processing and custom texture/color shaders in OpenGL to create kinetic typography, digital collages, and more.

Additional Information:

Programming Languages/Frameworks: Python, Java, Typescript | Django, React, Flask | Ubuntu, Git, Docker
Technical Skills: Machine Learning, API, Web App, Data Analysis
Hobby Projects: Chisktale (a fan-game built with C#), T-33 (airsoft turret built with Arduino and C#)