

Tae Wook (Tyler) Kim

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Education

Columbia University, The Fu Foundation School of Engineering and Applied Science – New York, NY, September 2020 – Present (*Leave of Absence until 2022 Fall*)

- Intended Major: Computer Science

Kent School – Kent, CT, September 2017 – June 2020

- GPA: 4.10, *High Honors*
- Awards: Bowdoin Book Award for extraordinary service to the community and passion for innovative thinking, Volunteer Service Award

Research Experiences

Independent Research Project: ORBITRON

January 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. [\[video-portfolio\]](#)
- Developed and implemented a novel control algorithm in Mathematica and wrote a paper titled '[Intuitive Control Algorithm Development of 4WIS/4WID Using A SpaceMouse](#)' in front of school body; Won 7 awards at CT Science Fair; patent-pending (Application Number: KR 10-2019-0087022)

Participant, 61st Annual UF SSTP (Student Science Training Program)

June 2019 – Aug 2019

- Assisted ML texture analysis research in Professor Alina Zare's Machine Learning and Sensing 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 SSTP participants

Intern, EDGC(Eone Diagnostics Genome Center), Korea

June 2018 – Sept 2018

- Assisted in a research in colorectal cancer diagnosis using deep learning algorithms
- Provided a presentation every week about related articles/researches and taught myself how to find/analyze patterns on different datasets with python machine learning libraries.

Extracurricular Activities

Technical Writer, Towards Data Science–Medium Publication

April 2021 – Present

- Periodically wrote articles that review state-of-the-art RL/CV papers and its PyTorch implementations
- 2+ Posts, 1000+ Views, 50+ Claps; [\[towardsdatascience.com/@tylertaewook\]](https://towardsdatascience.com/@tylertaewook)

Member, DIYA–KC ML2's Machine Learning Club, Korea

March 2021 – Present

- Presenting and implementing two relevant [papers](#) in the Multi Agent Reinforcement Learning team every week.
- Upcoming project: testing MARL algorithms directly to multiple environments such as Pommerman and Snake game.

Project Lead, Coronavirus Visualization Team

April 2020 – Sept 2020

- Initiated and led a 30-person team 'COVID-19 in South Korea'; Held bi-weekly online meetings and produced visualizations and infographics in an attempt to explain South Korea's successful response to COVID-19.
- Focused in analysis and research for Korea's 5-day mask rotation policy, self-quarantine smartphone app, and testing-and-tracking method; Acknowledged in [Kent Quarterly](#), alumni magazine for Kent School.

President, Coding Club

Sept 2018 – June 2020

- Initiated and led a STEM outreach program where members visited a local middle school monthly to teach students in grades 6–8 how to program and play with a robot using mBots and Blockly;
- Held bi-weekly meetings to connect students interested in coding with appropriate resources and faculties in school

Math/Science Peer Tutor, Kent School

Sept 2018 – June 2020

- Assisted other peers to understand concepts easily and prepare for tests in math/science subjects during studyhalls..
- Proposed and implemented an online chatbot application that allows students to fill out feedback form, book tutoring sessions, and know each tutor's expertise subjects with iMessages.

Additional Information:

Computer Skills: Proficient in Python and Java; Experienced with MATLAB, Mathematica, fast.ai, PyTorch, and LaTeX

Languages: English (Native), Korean (Native), Mandarin (Elementary)

Hobby Projects: Chisktale (a fan-game development in C#) [\[video\]](#), T-33 (airsoft turret with Arduino and C# Winform App) [\[video\]](#)