Taeyang Kim

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Education

University of Toronto 2021-2025

Honours Bachelor of Science, Computer Science, Co-op
International Student Ambassador
Relevant Courses:

- Machine Learning and Data Mining, Analysis of Numerical Algorithms
- Multivariate Calculus, Differential and Integral Calculus, Number Theory and Combinatorics

Technical Skills

Languages: Python, Java, C/C++, JavaScript/React , Bash, HTML/CSS

Skills: Web Development, Data Parsing, Computer Vision, Data Analytics

Experience

Korea Advanced Institute of Science and Technology Aug 2020 - Jan 2021

Research Intern

- Trained a convolutional neural network, working heavily with **PyTorch** and **Anaconda**, allowing the model to classify images with an accuracy of 86.7%
- Extended the model using **OpenCV** to enable real-time recognition of objects for autonomous car
- Responsible for the data plotting feature using **Python**, an important component of the project that enabled the analysis of the effect of epochs in machine learning

Ontario Public Service May 2023 - Present

Application Programmer Analyst

- Applied **SQL** and **DAX** queries for comprehensive data analysis, resulting in a significant reduction in monthly report generation number, from 45 to 23
- Created a machine learning model using **PySpark** and **Python** to predict private cost audit tuition fees, providing accurate estimates for about 400,000 different applications
- Utilized **Power BI** to collaborate with stakeholders in summarizing monthly reports for OSAP applications.

Projects

Reinforcement Learning Snake - OpenAI Gymnasium

- Applied AI with deep Q-learning algorithm, using **TensorFlow**'s CNN to process the three most recent image buffers for gameplay

Platform Game

- Developed a platform game featuring three distinct stages, programmed in **MIPS** assembly language, incorporating gravity mechanics for an immersive gaming experience

Movie Web Service

- Employed **React** and **Axios** to build a fast, static website that could easily synchronize data with the server
- Utilized **HTML, CSS,** and **JavaScript** for the front end to display movie details obtained using YTS API

Course Offering Calendar - Android App

- Used **Gradle** and **Java** to create a course calendar Android app that considers prerequisites and session offerings, with **Git** for version control
- Implemented Real-time **Firebase** and **SQLite** to enable real-time updates of user-generated data for all other users of the application
- Utilized **Mockito** and **JUnit** to facilitate unit testing, which allowed for fast development
- Conducted **Scrum** meetings as Scrum master and used **Jira** to keep track of the user stories to allow better communication and collaboration