Hyuk Ahn

hyuk_ahn@brown.edu

Education

University of Michigan - Ann Arbor **2016 - 2020**

- B.S.E Computer Science
- Courseworks - Artificial Intelligence, Machine Learning, Operating Systems, Web Development

Brown University **Anticipated Graduation Date: 05/2023**

- M.S Computer Science - AI/ML Pathway
- Courseworks - Deep learning, Reinforcement Learning, Advanced Deep learning

Skills

• **Programming Languages:** Python, C++, C#, Java • **Tools:** Tensorflow, Unity, Android, AWS

Experiences

Machine Learning Research Intern - Seoul National University **01/2021 - 06/2021**

- Researched graph relation prediction task with a team of 4 to design new methods of learning diverse set of graph rules and creating novel graph neural network architecture, combining reinforcement learning-based graph rules and transfer learning from the state-of-the-art model to improve accuracy of relation prediction up to 20% from current best model

Reinforcement Learning Research Assistant - University of Michigan **11/2019 - 11/2020**

"Autonomous construction hoist system based on deep reinforcement learning in high-rise building construction," Automation in Construction, 2021 *(Acknowledgement)*

- Investigated the application of deep reinforcement learning in automatic elevator controls to high-rise construction sites to increase the lifting efficiency of passengers
- Developed realistic, asynchronous multi-elevator simulation in Python including replication of real passenger-traffic to generate datasets for training use
- Created Double Q-learning Networks with TensorFlow which operates the elevator to reduce passenger travel time, outperforming baseline elevator algorithms (e.g., human controls, SCAN, genetic algorithm, and longest-queue-first)

Deep Learning Graduate Teaching Assistant - Brown University **01/2022 - Present**

- Teach students from basic neural network to deep learning methods in computer vision and natural language processing

Artificial Intelligence Graduate Teaching Assistant - Brown University **09/2021 - 12/2021**

- Designed course projects with professor and mentored final projects for student groups
- Taught students in group discussions and 1:1 meetings about AI topics such as reinforcement and supervised learning

Android Developer Intern - InstaHub **05/2019 - 08/2019**

- Developed for Android front-end in Java to provide energy usage data statistics gathered via smart light switch
- Built push notification services through AWS to forward messages and deliver scheduled statistics from smart switch
- Created internal tool around Android chart library to generate charts with consistent UI and visual themes

Projects

Natural Language Processing with Disaster Tweets - Kaggle Data Science Competition

- Preprocessed Twitter posts and trained on LSTM and BERT models along with hyperparameter tuning to achieve 83.7% accuracy in predicting tweets about natural disasters

Deep Reinforcement Learning with StarCraft 2

- Studied performance of fully-connected, convolutional, and vision transformer models with Deep Q-learning on StarCraft 2

Deep Learning Framework

- Built personal deep learning framework in Python (stochastic gradient descent, 2D CNN, and N-Gram language model), producing trainable models on complex image classification tasks and word prediction tasks

"i heart u" - Made-With-Unity Video Game - *https://pahn.itch.io/i-heart-u*

- Created 2D game over 6 days for game jam, placing #38 for innovation among 2000 games