HYUN JAE, CHO

Email | Website | Github | LinkedIn | Google Scholar

Education

University of Virginia (Master's: 2019 | Ph.D. expected: 2025)
- Ph.D. in Computer Science, advised by Prof. Aidong Zhang
- Knowledge Transfer for Medical Datasets using Adversarial Learning
- Master's degree in Computer Science, advised by Prof. Madhur Behl
- Project: Towards Automated Safety Coverage and Testing for Autonomous Vehicles

UC, Berkeley (2018)
- Bachelor's degree in Computer Science

Skills/Interests: Machine Learning, Bioinformatics

Publications & Reports

Towards Automated Safety Coverage and Testing for Autonomous Vehicles (Arxiv, 2020)
- Evaluated safety of Baidu's self-driving algorithms using reinforcement learning on LG simulator

Bedshift: Permutation of Genomic Interval Sets (BioArxiv, 2020)
- Currently under review for journal Genome Biology
- Command line tool and Python API for generating random permutated BED files for objective evaluation of effectiveness of transcription factor binding sites

Research Experiences

Knowledge Transfer of Medical Datasets Using Adversarial Learning | Ongoing
- Used adversarial learning to separate dataset-invariant and dataset-variant information on TCGA cancer datasets.
- Currently working on applying the technique on ADSP Alzheimer's dataset with efforts to increase the accuracy of AD prediction using transfer learning.
- Advised by Prof. Aidong Zhang.

University of Virginia - Link Lab | Fall 2018 - Fall 2019
- Evaluate safety of Baidu Apollo's AD stack using LGSVLsimulator.
- Discovered two edge cases that Baidu Apollo'sAD stack fails to drive safely in a simulated traffic scenario by implementing an actor-critic reinforcement learning model.
- Two edge cases: indirect perception stack failure and direct collision against a non-autonomous vehicle.
- Directed by Prof. Madhur Behl.

University of Virginia - DataBio | Fall 2018 - Fall 2019
- Identified distance-related correlations among pairs of transcription factor binding sites (TFBS) in chromosomes by transforming them into vector embeddings by applying the GloVe algorithm.
- Directed by Prof. Nathan Sheffield.

Work Experience

Phantom AI | Software Engineering Intern | Spring 2018
- Map UI Improvement and map data organization

UC Berkeley | Undergraduate Research Intern | Fall 2017
Emory University | Undergraduate Research Intern | Summer 2017
UC Berkeley CS61A Lab Assistant (2014) | U Virginia CS 5010 Teaching Assistant (2019)