

Haekyu Park

Homepage <https://haekyu.com> Email haekyu@gatech.edu

Education	Ph.D., Computer Science Georgia Institute of Technology, Atlanta, GA Advisor: Dr. Polo Chau	Aug 2018 - Present
	B.S., Computer Science and Engineering Seoul National University, Seoul, Republic of Korea Graduated with honors (Cum Laude)	Mar 2012 - Aug 2017
Research Experience	Data Science Intern NVIDIA, Austin, TX Mentor: Bartley Richardson, Brad Rees, Joe Eaton Internship results integrated into and presented at NVIDIA's KDD 2019 tutorial .	May 2019 - Aug 2019
	Graduate Research Assistant Georgia Institute of Technology, Atlanta, GA	Aug 2018 - Present
Grants and Honors	Undergraduate Research Assistant Seoul National University, Seoul, Republic of Korea	June 2016 - Aug 2017
	Amazon AWS Research Grant Co-PIs: Nilaksh Das, Scott Freitas, Duen Horng Chau Funded \$5,000 in AWS cloud credits	2018
Publications	National Scholarship For Science and Engineering Merit-based	2015
	Summit: Scaling Deep Learning Interpretability by Visualizing Activation and Attribution Summarizations Fred Hohman, Haekyu Park , Caleb Robinson, Duen Horng Chau IEEE VIS (VAST), 2019. [PDF] [Demo]	
	Visual Analytics for Interpretability on Deep Neural Networks Haekyu Park , Fred Hohman, Nilaksh Das, Caleb Robinson, Duen Horng Chau Women in Machine Learning Workshop (WiML), 2019.	
	MLsploit: A Framework for Interactive Experimentation with Adversarial Machine Learning Research Nilaksh Das, Siwei Li, Chanil Jeon, Jinho Jung, Shang-Tse Chen, Carter Yagemann, Evan Downing, Haekyu Park , Evan Yang, Li Chen, Michael Kounavis, Ravi Sahita, David Durham, Scott Buck, Duen Horng Chau, Taesoo Kim, Wenke Lee Knowledge Discovery and Data Mining (KDD) Workshop - Project Showcase, 2019. [PDF]	
	NeuralDivergence: Exploring and Understanding Neural Networks by Comparing Activation Distributions Haekyu Park , Fred Hohman, Duen Horng Chau Poster, IEEE Pacific Visualization Symposium (PacificVis), 2019. [PDF] [Demo]	
	SIDE: Representation Learning in Signed Directed Networks Junghwan Kim, Haekyu Park , Ji-Eun Lee, and U Kang The Web Conference (WWW), 2018. [PDF]	
	A Comparative Study of Matrix Factorization and Random Walk with Restart in Recommender Systems Haekyu Park , Jinhong Jung, and U Kang IEEE Big Data, 2017. [PDF]	
	Haekyu Park	1 of 3

Talks and Presentations	NeuralDivergence: Exploring and Understanding Neural Networks by Comparing Activation Distributions Apr 2019, Poster Presentation, PacificVis	
	A Comparative Study of Matrix Factorization and Random Walk with Restart in Recommender Systems Dec 2017, Oral Presentation, IEEE Big Data	
Teaching	Graduate Teaching Assistant Georgia Institute of Technology, Atlanta, GA Data and Visual Analytics (CSE 6242) Designed homeworks, held weekly office hours, and mentored student team projects for 264 students. Instructor: Polo Chau	Fall 2019
Open-source Research Projects	Summit: Scaling Deep Learning Interpretability by Visualizing Activation and Attribution Summarizations Summit is an interactive visualization that scalably summarizes what features a deep learning model has learned and how those features interact to make predictions. It is published at IEEE VIS (VAST), 2019.	
	MLSploit: A Framework for Interactive Experimentation with Adversarial Machine Learning Research MLSploit is a user-friendly, cloud-based system that enables researchers and practitioners to rapidly evaluate and compare state-of-the-art adversarial attacks and defenses for machine learning (ML) models. It is published at Knowledge Discovery and Data Mining (KDD) Workshop - Project Showcase, 2019.	
	SIDE: Representation Learning in Signed Directed Networks SIDE is a general network embedding method that represents both sign and direction of edges in the embedding space. It is published at the Web Conference (WWW), 2018.	
	A Comparative Study of Matrix Factorization and Random Walk with Restart in Recommender Systems We provide a comparative study of matrix factorization and RWR, which are the most representative recommender systems. It is published at IEEE Big Data, 2017.	
Projects	RAPIDS and Cybersecurity: A Network Use Case Keywords: RAPIDS, NVIDIA, GPU-acceleration, Graph, Personalized Page Rank Presented at KDD 2019 NVIDIA RAPIDS tutorial with the cybersecurity use case notebook .	2019
	Explore the history of space and interplanetary travel through a visualization of space data Keywords: Information Visualization, Scrollytelling, d3.js https://psy901.github.io/space-mission-project/	2018
	Recommender System for Videos on Oksusu Application Keywords: Deep Learning, Sequence/Word Embedding, Approx. k-NN, Heterogeneous Features SK Telecom, Seoul, Republic of Korea	2017
	A Fast Data Compression with Shared Virtual Memory in Heterogeneous System Architecture Keywords: OpenCL, GPGPU, SVM, HSA Undergraduate thesis	2017
	Personalized Recommendation for Credit Card Rewards Keywords: Coupled Matrix Factorization, Time Series Data Hyundai Card, Seoul, Republic of Korea	2016
Skills	Programming Languages Python, JavaScript, HTML, R, Matlab, Java, C, C++, Ocaml, Scheme	
	Machine Learning / Deep Learning / Data Science TensorFlow, Keras, scikit-learn, OpenCV, Numpy, Pandas, SciPy, NetworkX	
	GPU-accelerated Data Science cuGraph, cuDF, cuML, BlazingSQL, OpenCL	
	Data Visualization D3.js, HoloViews, Matplotlib, WebGL, ggplot	

Professional Service

Reviewer

WiML 2019

KDD 2019

ICML 2019

Professional Membership

The Institute of Electrical and Electronics Engineers (IEEE). Since 2019.