Sung Min (Sam) Park

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Education

Massachusetts Institute of Technology
Ph.D. in EECS
Advisor: Aleksander Mądry
August 2018 - Present

Massachusetts Institute of Technology
S.M. in EECS
Advisor: Guy Bresler
Thesis: On the Equivalence of Sparse Statistical Problems
August 2014 - August 2016

Cornell University
B.S. in Computer Science, GPA: 4.22/4.3
August 2011 - May 2014

Honors & Awards

Samsung Scholarship for Graduate Studies (five year fellowship), 2014
MIT Akamai Presidental Fellowship, 2014
Cornell CS Prize for Academic Excellence (one of two seniors), 2014
Cornell Merrill Presidential Scholars (top 1% of graduating class), 2014

Publications

(* denotes equal contribution)

Conference Publications

S.M. Park*, K. Georgiev*, A. Ilyas*, G. Leclerc, A. Mądry. "TRAK: Attributing model behavior at scale." International Conference on Machine Learning, 2023.

H. Shah*, **S.M. Park***, A. Ilyas*, A. Mądry. "Modeldiff: A framework for comparing learning algorithms." International Conference on Machine Learning, 2023.

S. Jain*, H. Salman*, A. Khaddaj*, E. Wong, **S.M. Park**, A. Mądry. "A Data-Based Perspective on Transfer Learning." Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern, 2023.

G. Leclerc, A. Ilyas, L. Engstrom, **S.M. Park**, H. Salman, A. Mądry. "FFCV: Accelerating training by removing data bottlenecks." Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern, 2023.

A. Ilyas*, **S.M. Park***, L. Engstrom*, G. Leclerc, A. Mądry. "Datamodels: Predicting predictions from training data." International Conference on Machine Learning, 2022.

(α-β) G. Bresler, **S.M. Park**, M. Persu. "Sparse PCA from sparse linear regression." Advances in Neural Information Processing Systems (NeurIPS), 2018.

A. Fix, T. Joachims, **S.M. Park**, R. Zabih. "Structured learning of sum-of-submodular higher order energy functions" Proceedings of the IEEE International Conference on Computer Vision, 2013.

Preprints

K. Georgiev*, J. Vendrow*, H. Salman, **S.M. Park**, A. Mądry. "The Journey, Not the Destination: How Data Guides Diffusion Models." 2023.

S.M. Park, K.A. Wei, K. Xiao, J. Li, A. Mądry. "On Distinctive Properties of Universal Perturbations" https://https://arxiv.org/abs/2112.15329, 2021.

Work Experience	**Waymo, LLC.**

Perception R&D Intern, May 2020 - August 2020
 - Designed and implemented new end-to-end DNN models for structured object detection from LiDAR data. Led to the patent "Region Detection and Geometry Prediction."

Republic of Korea Army
Signals Intelligence Researcher, September 2016 - June 2018
 - Conducted research as part of a select R&D unit in signals intelligence for military service. Discharged as sergeant.

Dropbox, Inc.
Software Engineering Intern, May 2013 - August 2013
 - Built a new internal API for storing and managing contacts.

Google, Inc.
Software Engineering Intern, June 2012 - August 2012
 - Built photos backend pipeline for face tag suggestion in Google+ Events.

Research Experience

Cornell University, CS Department
Research Assistant, January 2013 - May 2013
 - Advisor: Ramin Zabih
 - Implemented an efficient variant of max flow in C++ for minimizing sum-of-submodular functions, and applied to binary de-noising and interactive segmentation.

Cornell University, CS Department
Research Assistant, August 2012 - December 2012
 - Advisor: Robert Kleinberg
 - Analyzed LP-based approximation algorithms for the k-max coverage problem in set systems of half spaces and limited VC-dimension.

Academic Service

Refereeing
Reviewer, *International Conference on Machine Learning (ICML)*, 2022-2023
Reviewer, *Neural Information Processing Systems (NeurIPS)*, 2022-2023

Organizing
Organizer, *Workshop on Attributing Model Behavior at Scale (ATTRIB @ NeurIPS), 2023*

Mentorship
Supervisor, two undergraduate students & two masters students 2018-2023

Talks
MIT LIDS & Stats tea, 2022, 2023
MIT MLTea, 2023
ML Collective Reading group, 2023
MIT LIDS Student Conference, 2022, 2023
University of Minnesota, Twin Cities ML Seminar, 2022