

SIMRAN KAUR

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EDUCATION

Princeton University Ph.D. student in Computer Science Department (Advisor: Sanjeev Arora).	Princeton, NJ 2022 - Present
Carnegie Mellon University B.S. Artificial Intelligence, School of Computer Science. GPA: 3.95/4.00	Pittsburgh, PA 2018-2022

HONORS

CMU Senior Leadership Recognition Recipient	May 2022
Phi Beta Kappa	May 2022
CMU SCS College Honors (successful completion of senior thesis)	May 2022
Dean's List	Spring 2019 – May 2022

PUBLICATIONS

- [1] *Skill-Mix: a Flexible and Expandable Family of Evaluations for AI models* [\[Link\]](#)
Dingli Yu, **Simran Kaur**, Arushi Gupta, Jonah Brown-Cohen, Anirudh Goyal, Sanjeev Arora.
In *Proceedings of the 12th International Conference on Learning Representations (ICLR)*, 2024.
In *Workshop on Distribution Shifts (NeurIPS)*, 2023.
- [2] *Disentangling the Mechanisms behind Implicit Regularization in SGD* [\[Link\]](#)
Zachary Novack, **Simran Kaur**, Tanya Marwah, Saurabh Garg, Zachary C. Lipton.
In *Proceedings of the 11th International Conference on Learning Representations (ICLR)*, 2023.
Spotlight in *Higher Order Optimization in Machine Learning Workshop (NeurIPS)*, 2022. [Best Poster Award]
- [3] *On the Maximum Hessian Eigenvalue and Generalization* [\[Link\]](#)
Simran Kaur, Jeremy Cohen, Zachary C. Lipton.
Contributed talk at “I Can’t Believe It’s Not Better!” Workshop (NeurIPS), 2022.
- [4] *Gradient Descent on Neural Networks Typically Occurs at the Edge of Stability* [\[Link\]](#)
Jeremy M. Cohen, **Simran Kaur**, Yuanzhi Li, Zico Kolter, Ameet Talwalkar.
In *Proceedings of the 9th International Conference on Learning Representations (ICLR)*, 2021.
In *Opt2020: 12th Annual Workshop on Optimization for Machine Learning (NeurIPS)*, 2020.
- [5] *Are Perceptually-Aligned Gradients a General Property of Robust Classifiers?* [\[Link\]](#)
Simran Kaur, Jeremy Cohen, Zachary C. Lipton.
In the *Science Meets Engineering of Deep Learning Workshop (NeurIPS)*, 2019.

TEACHING

Princeton University

- Teaching Assistant for *COS 324: Introduction to Machine Learning*.
Fall 2023 (for Junior Research Work), Spring 2024.

Carnegie Mellon University

- Teaching Assistant for *15281 Artificial Intelligence: Representation and Problem Solving*.
Spring 2020, Fall 2020, Spring 2021 (Head TA), Fall 2021 (Head TA), Spring 2022 (Head TA)
- Teaching Assistant for *10301/10601 Introduction to Machine Learning (Undergraduate and Graduate Level)*.
Summer 2020.

SERVICE

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| • Conference Reviewing: NeurIPS | 2023 – Present |
| • Co-organizer for Princeton Algorithms & Machine Learning (Alg-ML) Seminar [Link] | Fall 2023 – Present |
| • Princeton Language and Intelligence (PLI) Blog Board Member [Link] | Fall 2023 – Present |

SKILLS

Programming: Python, C, Java, Standard ML, R, LaTeX

Frameworks & Softwares: PyTorch, Matlab, Jupyter Notebook, Git

RELEVANT COURSEWORK

10-315 Machine Learning	15-281 Artificial Intelligence	11-485 Deep Learning
11-711 Algorithms for NLP	16-385 Computer Vision	36-218 Probability Theory
15-210 Parallel & Sequential Algorithms	15-251 Great Theoretical Ideas in CS	15-122 Data Structures & Algorithms
15-213 Computer Systems	15-150 Functional Programming	36-401 Modern Regression
10-725 Convex Optimization	COS511 Theoretical Machine Learning	COS521 Advanced Algorithms
APC550 Probability in High Dimensions		

HOBBIES

Running, painting, and baking biscotti