

SIMRAN KAUR

✉ skaur@princeton.edu 🌐 www.kaursim.com

EDUCATION

Princeton University

Ph.D. Candidate 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] *Instruct-SkillMix: A Powerful Pipeline for LLM Instruction Tuning* [\[Link\]](#)

Simran Kaur*, Simon Park*, Anirudh Goyal, Sanjeev Arora.
Oral at *Compositional Learning Workshop* (NeurIPS), 2024.

[2] *Can Models Learn Skill Composition from Examples?* [\[Link\]](#)

Haoyu Zhao, **Simran Kaur**, Dingli Yu, Anirudh Goyal, Sanjeev Arora.
In *Advances in Neural Information Processing Systems* 37 (NeurIPS), 2024.

[3] *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.

[4] *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]

[5] *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.

[6] *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.

[7] *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

- Conference Reviewing: NeurIPS, ICLR
- Co-organizer for Princeton Algorithms & Machine Learning (Alg-ML) Seminar [\[Link\]](#)
- Princeton Language and Intelligence (PLI) Blog Board Member [\[Link\]](#)

2023 – Present
Fall 2023 – Spring 2024
Fall 2023 – Present

SKILLS

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

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

HOBBIES

Running, painting, and baking biscotti