Sachin Goyal

Ph.D. Student, Machine Learning Department
Carnegie Mellon University
Advisor: **Prof. Zico Kolter**

sachingo@andrew.cmu.edu | sach.goyalsachin@gmail.com
Webpage : https://saching007.github.io/

EDUCATION

Carnegie Mellon University *Pittsburgh, US*
Ph.D. in Machine Learning *August '21 - Dec '25 (expected)*
Advisor: Prof. Zico Kolter

Indian Institute of Technology Bombay *India*
B.Tech in Electrical Engineering with Minors in Computer Science and Engineering *July '15 - August '19*
GPA: 9.11/10
Advisor: Prof. Subhasis Chaudhuri

WORK EXPERIENCE

FAIR at Meta, Paris *Paris*
Research Scientist Intern *May '25 - August '25*
Advisor: Kartik Ahuja and David Lopez-Paz
Worked on understanding *distilled pretraining* to build small and powerful language models. Also worked on pushing the frontiers of LLMs via *future-aware pretraining*.

Google Research, NYC *NYC*
Student Researcher *May '23 - September '23*
Advisor: Vaishnavh Nagarajan
Developed *pause-pretraining*, one of the first works to explore scaling language models at inference time.

Microsoft Research, India *Bangalore*
Research Fellow in Machine Learning and Optimization Group *July '19 - June '21*
Advisors: Prateek Jain
Worked on developing efficient ML algorithms that can be deployed on resource constrained devices.

RESEARCH INTERESTS

Improving pretraining of foundation models via data curation and better pretraining algorithms, inference time scaling

SELECTED PUBLICATIONS

Full List: Google Scholar

Distilled Pretraining: A modern lens of Data, In-Context Learning and Test-Time Scaling
Sachin Goyal, David Lopez-Paz, Kartik Ahuja
Under Review

Safety Pretraining: Toward the Next Generation of Safe AI
Pratyush Maini*, Sachin Goyal*, Dylan Sam*, Alex Robey, Yash Savani, Yiding Jiang, Andy Zou, Zachary C. Lipton, J. Zico Kolter
Under Review

Overtrained Language Models Are Harder to Fine-Tune
Jacob Springer, Sachin Goyal, Kaiyue Wen, Tanishq Kumar, Xiang Yue, Sadhika Malladi, Graham Neubig , Aditi Raghunathan
SCOPE and ICBINB Workshops @ ICLR 2025 (Best Paper Awards)
ICML 2025

Think before you speak: Training Language Models With Pause Tokens
Sachin Goyal, Ziwei Ji, Ankit Singh Rawat, Aditya Krishna Menon, Sanjiv Kumar, Vaishnavh Nagarajan

ICLR 2024

Context-Parametric Inversion: Why Instruction Finetuning May Not Actually Improve Context Reliance
Sachin Goyal*, Christina Baek*, Zico Kolter, Aditi Raghunathan
ICLR 2025 (Oral)

Scaling Laws for Data Filtering–Data Curation cannot be Compute Agnostic
Sachin Goyal*, Pratyush Maini*, Zachary Lipton, Aditi Raghunathan , Zico Kolter
Data Problems for Foundation Models @ ICLR 2024 (Best Paper Award)
CVPR 2024

T-MARS: Improving Visual Representations by Circumventing Text Feature Learning
Pratyush Maini*, Sachin Goyal*, Zachary Lipton, Zico Kolter, Aditi Raghunathan
Datacomp Workshop @ ICCV 2023 (Oral)
ICLR 2024

Finetune like you pretrain: Improved finetuning of zero-shot vision models
Sachin Goyal, Ananya Kumar, Sankalp Garg, Zico Kolter, Aditi Raghunathan.
CVPR 2023

Test Time Adaptation via Conjugate Pseudo-Labels
Sachin Goyal⋆, Mingjie Sun⋆, Aditi Raghunathan and Zico Kolter.
NeurIPS, 2022

Student Mentorship

Manan Agarwal : MS Student @ CMU MLD
Ongoing.

Catherine Li : UG Student @ CMU
Ongoing.

Pranit Chawla : MS Student @ CMU MLD → Applied Scientist @ Apple
Pitfalls in Instruction-tuning of language models.

Sankalp Garg : MS Student @ CMU MLD → Applied Scientist @ Amazon
Robust fine-tuning of image-language models.

Kushal Majmundar : Pre-doc Researcher @ Google Research India
Representation learning for unstrcutured tabular data.

Shubhang Bhatnagar : UG Student @ IIT Bombay → PhD Student @ UIUC
Active learning and efficient training of neural networks.

Miscellaneous

Service
- Conference Reviewing: NeurIPS (2022, 2023, 2024, 2025), ICML (2023, 2024, 2025), ICLR (2022, 2023, 2024, 2025), workshops at top conferences
- Teaching Assistant : Advanced Deep Learning   2023, 2024, CMU
- Undergraduate Teaching Assistant : Biology 101   2017
- Hostel System Administrator , IIT Bombay   2019
- National Cadet Corps (NCC), Indian Air Force   '15-'17

References

Prof. Zico Kolter
Professor and Head of Department
Machine Learning Department, Carnegie Mellon University
Contact: zkolter@cs.cmu.edu

Prof. Aditi Raghunathan
Assistant Professor, Carnegie Mellon University
Contact: raditi@cs.cmu.edu

Vaishnavh Nagarajan
Research Scientist, Google AI
Contact: vaishnavh@google.com

Kartik Ahuja
Research Scientist, FAIR at Meta
Contact: kartikahuja@meta.com

David Lopez-Paz
Research Scientist, FAIR at Meta
Contact: dlp@meta.com