

Sachin Goyal

Ph.D. Student, Machine Learning Department
Carnegie Mellon University
Advisor: [Prof. Zico Kolter](#)

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EDUCATION

Carnegie Mellon University
Ph.D. in Machine Learning
Advisor: [Prof. Zico Kolter](#)

Pittsburgh, US
August '21 - Current

Indian Institute of Technology Bombay

B.Tech in Electrical Engineering with Minors in Computer Science and Engineering
GPA: 9.11/10
Advisor: [Prof. Subhasis Chaudhuri](#)

India
July '15 - August '19

WORK EXPERIENCE

Google Research, NYC

Student Researcher

Advisor: [Dr. Vaishnavh Nagarajan](#)

Worked on pause tokens to improve LLM reasoning at inference, resulting in ICLR 2024 paper on “Think Before You Speak: Training Language Models With Pause Tokens”.

NYC
May '23 - September '23

Microsoft Research, India

Research Fellow in Machine Learning and Optimization Group

Advisors: [Dr. Prateek Jain](#) and [Dr. Harsha Vardhan Simhadri](#)

Worked on resource-efficient machine learning resulting, resulting in ICML 2020 paper on “DROCC: Robust One-Class Classification”.

Bangalore
July '19 - June '21

RESEARCH INTERESTS

Data Curation, Robust Fine-Tuning of Pretrained Models

PREPRINTS

Context-Parametric Inversion: Why Instruction Finetuning May Not Actually Improve Context Reliance

Sachin Goyal*, Christina Baek*, Zico Kolter, Aditi Raghunathan
Under Review

Inference Optimal VLMs Need Only One Visual Token but Larger Models

Kevin Li*, Sachin Goyal*, João D. Semedo, Zico Kolter
Under Review

SELECTED PUBLICATIONS

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

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

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

DROCC: Deep Robust One-Class Classification.

Sachin Goyal, Aditi Raghunathan, Moksh Jain, Harsha Simhadri and Prateek Jain.

ICML, 2020

STUDENT MENTORSHIP

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 unstructured tabular data.

Shubhang Bhatnagar : UG Student @ IIT Bombay → PhD Student @ UIUC

Active learning and efficient training of neural networks.

MISCELLANEOUS

Service

- Conference Reviewing: PODS @ ICML' 22, SafeML @ NeurIPS' 22, AISTATS' 23
- 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

Associate Professor, Carnegie Mellon University

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Prof. Aditi Raghunathan

Assistant Professor, Carnegie Mellon University

Contact: raditi@cs.cmu.edu

Dr. Vaishnavh Nagarajan

Research Scientist, Google AI

Contact: vaishnavh@google.com