

Nidhin Harilal

FIFTH-YEAR PHD STUDENT
COMPUTER SCIENCE, CU BOULDER

☎ +1 (720) 761-4063 | ✉ nidhin.harilal@colorado.edu | 🏠 cryptonymous9.github.io | 🎓 Google Scholar

Interests: AI/ML Robustness, GenAI, Multimodality, & Representation Learning.

Education

University of Colorado, Boulder

GPA - 4.0/4.0

Ph.D & MS in CS advised by [Dr. Claire Monteleoni](#)

Aug. 2021 - May 2026 (Expected)

Indian Institute of Technology (IIT) Gandhinagar

GPA - 8.51/10

B.Tech. (with Honours) in CSE | 🏆 Dean's List

July 2017 - July 2021

Experiences

Amazon Science

Sept. 2025 - Dec. 2025

Applied Scientist Intern (Team: Creators Science)

Managers: [Prince Grover](#), [Dr. Tessa Childers-Day](#)

Samsung Semiconductor

June. 2025 - Aug. 2025

ML PhD Intern (Team: US R&D SDAL)

Managers: [Dr. Zhihong Pan](#), [Dr. Kaushik Balakrishnan](#)

INRIA, Paris

May. 2024 - Aug. 2024

Research Intern (Team: ARCHES)

Advisors: [Dr. Anastase](#), [Prof. Claire Monteleoni](#)

University of Colorado, Boulder

Jan. 2022 - Present

Research Assistant (Currently funded by NSF iHARP)

Advisor: [Prof. Claire Monteleoni](#)

Northeastern University

Jul. 2020 - Dec. 2020

Research Intern (SDS Lab)

Advisor: [Prof. Auroop R. Ganguly](#)

Indian Institute of Technology, Gandhinagar

May. 2019 - Dec. 2019

Undergraduate Research Assistant (MIR Lab, Vision & Graphics Lab)

Advisors: [Prof. Bhatia](#), [Prof. Raman](#)

Capgemini Technology Services, Ahmedabad

GJ, India

ML Engineer Intern (Team ML Safety)

Apr. 2019 - Jun. 2019

Invited Presentations

- Aug. 2024 Google DeepMind, Paris, 'Spatiotemporal Representations: Translating Advances in Vision to Geospatial Datasets'
- Feb. 2023 AAAI: AI for Climate Science, 'Semi-supervised spatiotemporal downscaling of climate projections'
- July 2022 Eastern European ML Summer School, 'Generating High-resolution Climate Change Projections'

Research Papers

* indicates equal contribution

PEER-REVIEWED

MixDiff: Mixing Natural and Synthetic Images for Robust Self-Supervised Representations ([PDF](#) [↗](#), [Web](#) [↗](#))

Reza Akbarian*, [Nidhin Harilal](#)*, Claire Monteleoni and Maziar Raissi.

Accepted at *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)* 2025.

Influence Estimation for Self-Supervised Learning ([PDF](#) [↗](#))

Reza Akbarian*, [Nidhin Harilal](#)*, Amit Rege*, and Claire Monteleoni.

In *NeurIPS 2024 - Self-supervised Learning: Theory and Practice*

Parameter Efficient Fine-tuning of Self-supervised ViTs without Catastrophic Forgetting ([PDF](#) [↗](#))

Reza Akbarian*, [Nidhin Harilal](#)*, Claire Monteleoni, and Maziar Raissi.

In *CVPR 2024 - Efficient Large Vision Models (eLVM)*

EnhancedSD: Downscaling Solar Irradiance from Climate Model Projections. ([PDF](#) [↗](#))

[Nidhin Harilal](#), B. M Hodge, Claire Monteleoni, and Aneesh Subramanian.

In *NeurIPS 2022 -Tackling Climate Change with Machine Learning (Climate Change AI)*

Image Caption Generator using Siamese Graph Convolutional Networks and LSTM. ([PDF](#) [↗](#))

Athul Kumar, Aarchi Agrawal, KS Ashin Shanly, Sudip Das, and [Nidhin Harilal](#)

In *5th Joint International Conference on Data Science & Management of Data* (9th ACM IKDD CODS and 27th COMAD) 2022

HDRVideo-GAN: Deep Generative HDR Video Reconstruction. ([PDF](#) [↗](#))

Mrinal Anand*, [Nidhin Harilal](#)*, Chandan Kumar*, and Shanmuganathan Raman

In *Proceedings of 12th Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP)* 2021

Augmented ConvLSTMs for Generating High-Resolution Climate Change Projections. ([PDF](#) [↗](#))

[Nidhin Harilal](#), Mayank Singh, Udit Bhatia

In *IEEE Access, Volume 9.* 2021

CARO: An Empathetic Chatbot for People with Major Depression. ([PDF](#) [↗](#))

[Nidhin Harilal](#), Rushil Shah, Saumitra Sharma, and Vedanta Bhutani

In *ACM 7th IKDD CoDS and 25th COMAD* 2020

PREPRINTS/MANUSCRIPTS

Where Did Your Model Learn That? Label-free Influence for Self-supervised Learning ([PDF](#) [↗](#))

[Nidhin Harilal](#)*, Amit Kiran Rege*, Reza Akbarian, Maziar Raissi and Claire Monteleoni.

In submission.

STint: Self-supervised Temporal Interpolation for Geospatial Data ([PDF](#) [↗](#))

[Nidhin Harilal](#), B. M Hodge, Aneesh Subramanian and Claire Monteleoni.

In submission.

Awards and Honors

Nov. 2024 Bell Foundation Research Fellowship, at CU Boulder.

Jul. 2024 iHARP Polar Informatics Fellowship, at CU Boulder.

Feb. 2022 Early Career Professional Development Fellowship, at CU Boulder.

Nov 2021 Awtar and Teji Singh Graduate Fellowship, at CU Boulder.

Nov. 2020 Journal Publication Award, at IIT Gandhinagar.

2018-19 Dean's List for excellent academic performance, at IIT Gandhinagar.

Aug. 2014 National Winner for CBSE All India Science Exhibition, at New Delhi.

Teaching & Services

Reviewer for prominent ML conferences such as WACV (2021, 2022, 2023), NeurIPS (2023, 2024), ICLR (2024, 2025).

Teaching Assistant, CSCI 5622: Machine learning (Spring 2024) and CSCI 4622: Machine learning (Fall 2022) at CU Boulder.

Teaching Assistant, ES 654: ML (Spring 2021) and ES 102: Intro to computing (Fall 2020) at IIT Gandhinagar.

Mentor for Academic Discussion Hours (Fall 2019-20) at IIT Gandhinagar, assisting freshmen with academic workload challenges.

Organizer of *HackRush*, IIT Gandhinagar's annual intra-college hackathon (2018, '19, '20, '21).

Relevant Skills

Programming [Extensive] Python, Machine Learning (PyTorch & Tensorflow)

Workflow High-Performance Computing (Slurm), Cloud Platforms (AWS, GCP), Containerization (Docker)

Design L^AT_EX, Vector graphics (InkScape), Adobe Suite (Lightroom, Photoshop)