

Neerja Thakkar

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EDUCATION

UNIVERSITY OF CALIFORNIA - BERKELEY | EXPECTED JUNE 2025

EECS PhD Candidate, Berkeley AI Research | GPA 3.93/4.0

Advisor: Jitendra Malik

Research interests: vision for robotics, human behaviour prediction, 3D vision, AI for social good

DARTMOUTH COLLEGE | JUNE 2019

Bachelor of Arts: Computer Science (High Honors), Mathematics | GPA 3.91/4.0

Phi Beta Kappa (top 10%), Magna Cum Laude

Citations for Meritorious Performance in: Computer Graphics, Software Design and Implementation, First-Year Writing Seminar

CONFERENCE AND JOURNAL PUBLICATIONS

- Neerja Thakkar, Karttikeya Mangalam, Andrea Bajcsy, Jitendra Malik. Adaptive Human Trajectory Prediction via Latent Corridors. In review.
- Huang Huang, Antonio Loquercio, Ashish Kumar, Neerja Thakkar, Ken Goldberg, Jitendra Malik. More Than an Arm: Using a Manipulator as a Tail for Enhanced Stability in Legged Locomotion, ICRA 2024
- Neerja Thakkar*, Vongani Maluleke*, Tim Brooks, Ethan Weber, Trevor Darrell, Alexei Efros, Angjoo Kanazawa, Devin Guillory. Studying Bias in GANs Through the Lens of Race, ECCV 2022
- Neerja Thakkar and Chris Bailey-Kellogg. Balancing sensitivity and specificity in distinguishing TCR groups by CDR sequence similarity, BMC Bioinformatics, 20(241) 2019

WORKSHOP AND POSTER PUBLICATIONS

- Neerja Thakkar, Georgios Pavlakos, Hany Farid. The Reliability of Forensic Body-Shape Identification, Workshop on Media Forensics at CVPR 2022
- Neerja Thakkar and Hany Farid. On the Feasibility of 3D Model-Based Forensic Height and Weight Estimation, Workshop on Media Forensics at CVPR 2021
- Neerja Thakkar, Julio Marco, Adrian Jarabo, Diego Gutierrez, Ana Serrano. Deep Compressed Sensing for HDR Image Acquisition. ICCP (Poster) 2020

RESEARCH EXPERIENCE

MALIK LAB, BAIR COMPUTER VISION GROUP, UC BERKELEY | SEP 2022 - PRESENT

PhD Student

FARID LAB, UC BERKELEY | AUG 2020 - AUG 2022

Student Researcher

- Worked on CV for social good and digital forensics research, published two first-author papers on forensic identification.

GRAPHICS AND IMAGING LAB, UNIVERSITY OF ZARAGOZA, SPAIN | SEP 2019 - JUNE 2020

Visiting Student - Fulbright Research Scholar

- Worked on deep learning and compressed sensing method for HDR image and video acquisition
- Advised by Diego Gutierrez, Julio Marco, Ana Serrano; presented preliminary findings at ICCP 2020 poster session

VISUAL COMPUTING LAB, DARTMOUTH CS DEPARTMENT | OCT 2018 - AUG 2019

Undergraduate Research Assistant

- Advised by Professor Wojciech Jarosz and Neel Joshi (Senior Research Scientist at Microsoft Research)
- Investigated which aspects of rendering are most important when rendering synthetic data for deep learning and computer vision tasks

BAILEY-KELLOGG RESEARCH GROUP, DARTMOUTH CS DEPARTMENT | JAN 2017 - APRIL 2019

Undergraduate Research Assistant

- Developed a principled machine learning method to analyze T-cell receptor repertoires and find patterns balancing sensitivity and specificity, revealing new insights for analysis of large biological datasets; led to a first-author publication

WORK EXPERIENCE

OPEN AI | FEB – APR 2022

DALLE 2 Red Team | Remote

- Probed DALLE 2 model capabilities; designed experiments to explore potential risks and ethical implications
- Innovated on and advocated for the implementation of advanced digital watermarking techniques
- Proposed other avenues to minimize harm once deployed

FACEBOOK | JUNE – AUG 2018

Software Engineering Intern on Integrity Computer Vision Team | Seattle, WA

- Optimized neural networks used to identify harmful content such as porn and violence by implementing pruning algorithms, making networks over 32% faster while retaining accuracy
- Modified and improved existing training pipeline and optimized pruning with multiprocessing, speeding it up by 8x
- Built adversarial image detector

MIT PRESS | MAR – JUNE 2018

MIT Press Intern

- Worked with Professor Thomas Cormen on Introduction to Algorithms by Cormen, Leiserson, Rivest and Stein
- Wrote solutions and lecture notes for the 4th edition instructors manual, helped make minor improvements to textbook

3M HEALTH INFORMATION SYSTEMS | JUNE – AUG 2016

Software Engineering Intern | St. Paul, MN

- Improved and updated a fundamental Java-based XML data parser, enabling analysis of millions of documents for data scientists and engineers throughout HIS. Modified parser to allow for anticipated future expansion, developed JUnit tests
- Deployed using Apache Spark and SQL, prototyped cloud-based parser deployment using AWS

AWARDS

NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOWSHIP | SEPT 2021

UC BERKELEY CHANCELLOR'S FELLOWSHIP | SEPT 2020

UC BERKELEY EECS EXCELLENCE AWARD | MARCH 2020

FULBRIGHT RESEARCH SCHOLARSHIP | SEPT 2019 – JUNE 2020

- Awarded to conduct computer graphics and imaging research in Spain under Professor Diego Gutierrez

HANNAH T. CROASDALE AWARD | JUNE 2019

- Given to the senior who has made the most significant contribution to the quality of life for women at Dartmouth
- Awarded for mentoring and increasing support for women in STEM, and sexual violence prevention work

GAZZANIGA FAMILY SCIENCE AWARD CS DEPARTMENT NOMINEE | JUNE 2019

- Given to the graduating Dartmouth senior who has done the best STEM research; one nominee per department

BARRY GOLDWATER SCHOLARSHIP - HONORABLE MENTION | MAR 2018

ADOBE RESEARCH WOMEN-IN-TECHNOLOGY SCHOLARSHIP | JAN 2018

- "Recognizes outstanding undergraduate female students anywhere in the world who are studying computer science", awarded to 10 women internationally every year

TEACHING EXPERIENCE

DARTMOUTH COMPUTER SCIENCE DEPARTMENT | MAR 2016 – MARCH 2019

Teaching Assistant: CS1, CS 11, CS 30

- Graded coding assignments or problem sets and exams, held office hours
- CS1: Taught weekly sections to 10 students on basic programming skills in Python
- CS11: Taught students foundational concepts for applied computing such as modeling and optimizing linear and nonlinear systems, representing and computing with uncertainty, analyzing multi-dimensional data, and sampling from complex domains, helped develop assignments in Matlab
- CS30: Taught students core discrete math concepts such as proof methods, combinatorics, probability, and graph theory

GRADUATE COURSEWORK

CS 280 Computer Vision

CS 281A Statistical Learning Theory

CS 282A Deep Learning

CS 294-26 Computer Vision and Computational Photography

CS 294-43 Vision and Language

CS 294-173 Learning for 3D Vision

CS 294-162 Machine Learning Systems