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 submission.
- 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 | Aug 2022 - Present
PhD Student

FARID LAB, UC BERKELEY | Aug 2020 – July 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

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