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: Hany Farid
Research interests: computer vision, digital forensics, computational photography, machine learning

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

PUBLICATIONS

- Neerja Thakkar*, Vongani Maluleke*, Tim Brooks, Ethan Weber, Trevor Darrell, Alexei Efros, Angjoo Kanazawa, Devin Guillory. A Study of Bias in GANs Through the Lens of Race, ECCV 2022
- 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
- Neerja Thakkar and Chris Bailey-Kellogg. Balancing sensitivity and specificity in distinguishing TCR groups by CDR sequence similarity, BMC Bioinformatics, 20(241) 2019

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RESEARCH EXPERIENCE

FARID GROUP, UC BERKELEY | Aug 2020 – present

PhD Student

- Working on research at the intersection of computer vision, machine learning and digital forensics

GRAPHICS AND IMAGING LAB, UNIVERSITY OF ZARAGOZA, SPAIN | Sep 2019 – June 2020

Visiting Student - Fulbright Research Scholar

- Advised by Diego Gutierrez, Julio Marco, Ana Serrano
- Worked on deep learning and compressed sensing method for HDR image and video acquisition
- 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

- Presented poster on project "Clustering Complementarity Determining Regions of T-Cell Receptors"
- 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 | Seattle, WA

- Interned on the Integrity Computer Vision team, which develops computer vision algorithms to keep Facebook safe

- 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 NOMINEE | June 2019
- Given to the graduating senior at Dartmouth who has done the best STEM research
- Each department can nominate one individual, and I was the Computer Science department's nominee

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 (Introduction to Programming and Computation): Taught weekly sections to 10 students on basic programming skills in Python
- CS11 (Foundations of Applied Computing): 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 (Discrete Mathematics for Computer Science): 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 Introduction to Computer Vision and Computational Photography
CS 294-43 Vision and Language
CS 294-173 Learning for 3D Vision
CS 294-162 Machine Learning Systems