Neerja Thakkar

neerja.me | +1.651.442.5695
nthakkar@berkeley.edu

EDUCATION

UNIVERSITY OF CALIFORNIA - BERKELEY | Expected June 2025
EECS PhD Candidate, Berkeley AI Research | GPA 4.0/4.0
Advisor: Hany Farid
Research interests: digital forensics, computational photography, computer vision, 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 and Chris Bailey-Kellogg. (2019). Balancing sensitivity and specificity in distinguishing TCR groups by CDR sequence similarity. BMC Bioinformatics, 20(241).
- Neerja Thakkar, Julio Marco, Adrian Jarabo, Diego Gutierrez, Ana Serrano. Deep Compressed Sensing for HDR Image Acquisition. ICCP (Poster), 2020
- Neerja Thakkar and Hany Farid. On the Feasibility of 3D Model-Based Forensic Height and Weight Estimation, Workshop on Media Forensics at CVPR, 2021.

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

TECHNICAL SKILLS

Proficient: Java • Python • C++
Moderate: C • Matlab • Bash • Android • LaTeX• Mitsuba Renderer • Blender • PyTorch
Experience with: OpenGL • HTML/CSS • JavaScript • Tensorflow

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