

Neerja Thakkar

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EDUCATION

DARTMOUTH COLLEGE | EXPECTED JUNE 2019

Bachelor of Arts: Computer Science, Mathematics | GPA 3.92/4.0

AQUINCUM INSTITUTE OF TECHNOLOGY - BUDAPEST | FALL 2017

Computer Science Study Abroad Program | Program GPA 4.0/4.0

HONORS AND AWARDS

GOLDWATER AWARD - HONORABLE MENTION | MAR 2018

- Awarded by the Barry Goldwater Scholarship and Excellence in Education Program for research potential and experience

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

CITATIONS FOR MERITORIOUS PERFORMANCE | 2016-18

- In Computer Graphics, November 2018
- In Software Design and Implementation, June 2017
- In First-Year Writing Seminar, March 2016

DARTMOUTH COLLEGE UNDERGRADUATE RESEARCH FUNDING | 2016-17

- Junior Research Scholarship, May 2017
- Sophomore Science Research Scholarship, May 2016

RESEARCH EXPERIENCE

VISUAL COMPUTING LAB, DARTMOUTH CS DEPARTMENT | SEP 2018 - PRESENT

Senior Thesis Research

- Advised by Professor Wojciech Jarosz and Neel Joshi (Senior Research Scientist at Microsoft Research)
- Investigating 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 - PRESENT

Undergraduate Research Assistant

- Presented poster on project "Clustering Complementarity Determining Regions of T-Cell Receptors"
- Later, developed a principled method that uses machine learning techniques to analyze T-cell receptor repertoires to find patterns balancing sensitivity and specificity
- Method reveals new insights and ways to analyze large biological datasets
- Preparing a publication for submission to an immunology journal

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 deep convolutional neural nets used to identify harmful content such as porn and violence by implementing pruning algorithms, making them over 32% faster while retaining accuracy
- Modified and improved existing training pipeline

- Optimized pruning of neural networks with multiprocessing, speeding it up by 8x
- Built adversarial image detector

MIT PRESS | MAR-JUNE 2018

MIT Press Intern under Professor Cormen

- Worked with 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, deployed using Apache Spark and SQL
- Enabled analysis of millions of documents for data scientists and engineers throughout HIS
- Modified the parser to allow for anticipated future expansion, developed JUnit unit tests
- Prototyped cloud-based parser deployment using AWS

DARTMOUTH SYMPHONY ORCHESTRA | FEB 2016 - PRESENT

Co-Manager

- Coordinate general operations of the DSO, execute hiring of professional musicians
- Resolve personnel conflicts and concerns within DSO, act as liaison between students, conductor and Hopkins Center
- Foster community building by facilitating social events and other initiatives
- Helping organize international tour to Italy in December of 2018

TEACHING EXPERIENCE

DARTMOUTH COMPUTER SCIENCE DEPARTMENT | MAR - JUNE 2018, NOV 2018 - PRESENT

Teaching Assistant, CS11

- Grade assignments and exams, hold office hours
- Teach 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
- Developing Matlab assignment on gradient domain copy paste for Winter 2019 offering of course

DARTMOUTH COMPUTER SCIENCE DEPARTMENT | JUNE - AUG 2017

Teaching Assistant, CS30

- Graded problem sets and exams
- Taught students core discrete math concepts such as proof methods, combinatorics, probability, and graph theory during office hours

DARTMOUTH COMPUTER SCIENCE DEPARTMENT | MAR 2016 - JUNE 2016

Teaching Assistant, CS1

- Taught weekly sections to 10 students on basic programming skills in Python, graded coursework
- Helped students understand concepts and write and debug code

TECHNICAL SKILLS

Proficient: Java • Python • C++

Moderate: C • JavaScript • Matlab • Bash • Android • \LaTeX

Experience with: OpenGL • HTML/CSS • SQL

RELEVANT COURSEWORK

COMPUTER SCIENCE

Algorithms
Software Design and Implementation
Applied Cryptography
Mobile Software Development
Structure and Dynamics of Complex Networks
Cognitive Computing with Watson
Computational Photography
Computer Graphics
Machine Learning
Deep Learning (Winter 2019)

MATHEMATICS

Abstract Algebra
Combinatorial Optimization
Graph Theory
Linear Algebra
Probability
Discrete Mathematics for Computer Science
Multivariable Calculus
Real Analysis (Winter 2019)
Differential Equations (Spring 2019)

EXTRACURRICULAR

STUDENT AND PRESIDENTIAL COMMITTEE ON SEXUAL ASSAULT | APR 2017 - PRESENT

Outreach Chair

- Work with the President's office and other administration to improve Dartmouth's sexual violence climate
- Make policy recommendations to campus and lead projects to change and improve a wide range of policies
- Lead outreach efforts and events such as yearly symposium on sexual violence prevention
- Led the creation of a 43-page handbook to elucidate Dartmouth's policies, procedures, and resources to students

WOMEN IN SCIENCE PROGRAM | SEP 2016 - PRESENT

Mentor

- Paired with underclass women to advise and encourage them in pursuing math, science, and engineering fields

WOMEN IN COMPUTER SCIENCE | JAN 2016 - PRESENT

Member, Panelist

- Connect with other women at meetings and events centered around computer science-related topics
- Have spoken in panels to give advice to other women on pursuing computer science

DARTMOUTH MACHINE LEARNING CLUB | JUNE 2017 - PRESENT

Co-founder, Positions held: Secretary, President

- Teach basic machine learning and Python programming concepts
- Coordinate meetings, help lead machine learning projects and initiatives based on members' interests

DARTMOUTH SYMPHONY ORCHESTRA | SEPT 2015 - PRESENT

Violinist

- Have studied solo classical violin for over 14 years: played in numerous chamber groups, violinist in MN Youth Symphonies for 8 years, participated in music festivals, taught violin lessons