

Nitya Thakkar

69 Brown St, Box 9533
Providence, RI 02912
Website

(651) 242-0072
nitya.thakkar@brown.edu
LinkedIn

Education

Brown University, Sc.B. Computer Science, GPA: 3.96/4.0 **Providence, RI • May 2023**

Honors: CRA Outstanding Undergraduate Researcher Award Honorable Mention (2022)

Relevant Coursework: Computational Biology, Machine Learning, Deep Learning, Learning with Limited Labeled Data (graduate seminar), Data Science, Computer Vision, Algorithms and Data Structures, Computer Systems, Discrete Math, Multivariable Calculus, Statistical Inference, Linear Algebra, Genetics, Biochemistry, Organic Chemistry

St. Paul Academy and Summit School, GPA: 3.99/4.0

St, Paul, MN • June 2019

Honors: Cum Laude Society, Intel International Science and Engineering Fair Finalist (2019), Ethel E. Pease Award for excellence in mathematics (2019), National Merit Scholar, Target Women in Science and Technology EPIC Award (2018)

Work Experience

Teaching Assistant at Brown University **Jan. 2021 - Present**

- Head Teaching Assistant for Deep Learning (Spring '23): lead TA staff of 25 and oversee all course development
- TA for Deep Learning (Fall '22 and Spring '22), Computer Systems (Fall '21), Linear Algebra (Spring '21)
- Responsibilities include course development, grading problem sets/projects, and holding weekly office hours

Select Programming Experience

- Othello: multiplayer game with AI opponent (Java; CS15; 2019)
- Shell: command terminal shell built in C (CS33; 2020)
- Implemented a graph convolutional network for single-cell classification (Python; CS1470; 2021)
- Full Stack at Brown: Created a website, implemented a database of users with login functionality (React, Node)

Languages: Proficient in Python, Java, C, PyTorch; Experience with HTML/CSS, JavaScript, React, and R

Research Experience

Microsoft Research, Biomedical ML Lab **May 2022 - Present**

Dr. Kevin Yang

- Created a denoising diffusion probabilistic model to generate 2D protein alignments
- Evaluated quality of designed protein alignments by assessing pairwise sequence similarity, rates of pairwise amino acid substitutions, and measuring how well secondary structure is encoded for protein engineering tasks

Brown University, Computational Biology Lab

Jan. 2020 – Present

Dr. Ritambhara Singh

- Honors senior thesis project aims to characterize the glioblastoma cellular environment using gene expression and cell state energy data; proposing a novel methodology for Bayesian inference on graphs using deep learning approaches.
- Co-first author on ENCODE Consortium project to predict three-dimensional organization of the genome (A/B compartments) from one-dimensional data (histone modification signals) using a recurrent neural network. I also ran and implemented baseline methods and improved the data pre-processing pipeline

Broad Institute of MIT and Harvard

June 2021 – Dec. 2021

Dr. Neriman Tokcan

- Created a novel architecture to predict spatial interactions among cells in the Classical Hodgkin's Lymphoma cellular microenvironment based on gene expression values for individualized cancer therapy treatments
- Presented work at Annual Biomedical Research Conference for Minority Students in November 2021

Leadership & Volunteering

Meiklejohn Peer Advisor and WiCS Mentor

Aug. 2021 – Present

- Meiklejohn: Academic and peer advisor to 6 first-year students at Brown
- WiCS: Advise and mentor first-year women in CS; Assumed leadership in 2022

Brown Elementary After-school Mentoring

Jan. 2020 – Present

- Volunteer with and mentor K-5 students once a week at local elementary school

Brown Abhinaya: Bharatanatyam

Sept. 2019 – Present

- Co-captain (2021-22) and choreographer for Brown's premier South Asian classical dance team
- Professional production in high school, "Ritu - The Seasons": four major performances in Twin Cities (2016-18)