

# Nitya Thakkar

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Website

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LinkedIn

## EDUCATION

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**STANFORD UNIVERSITY**, Ph.D. Candidate in Computer Science  
*Honors*: Stanford Graduate Fellowship

**Expected June 2028**

**BROWN UNIVERSITY**, Sc.B. Computer Science with Honors, GPA: 3.97/4.0

**May 2023**

*Honors*: Magna Cum Laude, Senior Prize in Computer Science, CRA Outstanding Undergraduate Researcher Award  
Honorable Mention (2022)

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

## WORK EXPERIENCE

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**Teaching Assistant at Brown University**

**Jan. 2021 - May 2023**

- 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

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- 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

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**Brown University, Computational Biology Lab**

**Jan. 2020 – May 2023**

*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

**Microsoft Research, Biomedical ML Lab**

**May 2022 - August 2022**

*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

**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

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**Meiklejohn Peer Advisor and WiCS Mentor**

**Aug. 2021 – May 2023**

- 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 – May 2023**

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

**Brown Abhinaya: Bharatanatyam**

**Sept. 2019 – May 2023**

- 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)