

RAJEE GANESAN

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EDUCATION

Carnegie Mellon University

Second Year Ph.D. Candidate in Department of Biology, GPA: 3.5

Pittsburgh, PA
Expected May 2027

University of North Carolina, Chapel Hill

Bachelor of Science in Quantitative Biology, Minors in Data Science and Statistics, GPA: 3.65

Cum Laude, Dean's List

Chapel Hill, NC
May 2022

Relevant Coursework by area: *Italics indicate graduate level coursework*

- **Bioinformatics:** *Bioinformatics Data Practicum Genomics and Epigenetics of the Brain*, Bioalgorithms, Biostatistics
- **Computer Science:** *Practical Computing and Data Analysis*, Object-Oriented Design, Data Structures
- **Biology:** *Advanced Genetics*, Cell Biology, Molecular Biology, Evolutionary Genetics
- **Mathematics & Physics:** Vector Calculus, Decision Sciences, Statistics II, Mechanics, Electricity and Magnetism

SKILLS

Computational - *Languages:* Python, R, Bash, Java, SAS; *Tools:* JMP, Jupyter Notebooks, Vim, RMarkdown, ImageJ, Imaris, Slidebooks, ZEN, Job Managers (SLURM), Microsoft Office Products, Package management and installation

Experimental - Research Project Design, Scientific and Technical Writing, Conference Presentation, Scientific Literature Research Antibody Staining, Fluorescence and Confocal Microscopy, Cell and RNA isolation, Sequencing preparation

EXPERIENCE

Carnegie Mellon University, Departments of Biology, Computational Biology

Doctoral Candidate in Pfenning Lab, Rotation Student in Pfenning, Ettensohn, and McManus Labs

Pittsburgh, PA
July 2022 - Present

- Spearheading and executing projects using computational approaches to identify genomic changes related to vocal learning.
- Conceptualized and experimentally validated computational techniques using data comprehension to optimize analysis.
- Compiled, organized and presented research updates and findings at regular departmental and large group conferences.

Furey Lab, UNC Department of Medicine

Senior Research Intern

Chapel Hill, NC
Aug 2019 - Apr 2022

- Introduced and collaboratively implemented a bioinformatics pipeline to identify genetic risks for Crohn's disease.
- Designed, implemented and troubleshoot pipeline testing guanine quadruplex formation in stimulated IL 10 KO macrophages.
- Mentored and managed two undergraduate students through reprocessing of pipelines for alternative datasets.
- Presented and published Honors Thesis and peer-reviewed publication to facilitate enhancement of gene therapy based treatments for Crohn's disease based on identified genetic risk factors.

Watts Lab, National Institutes of Environmental Health Sciences, National Institutes of Health

Scholars Connect Research Fellow

Durham, NC
June 2021 - April 2022

- Led development of computational methods to accurately identify regions forming quadruplexes, and integrated experimental results confirming a correlation between these regions and polymerase pausing/gene expression.
- Delivered communicative research presentations at biweekly meetings to technical and non-technical audiences.
- Designed future methods jointly with diverse groups of researchers in internal and external groups to build on created tools.

UNC Division One Baseball

Data Analyst

Chapel Hill, NC
Dec 2019 - Dec 2020

- Collaborated with 18 analysts to enumerate game insights using R, assessing likelihoods of pitches in various situations.
- Created easy-to-read scouting reports for upcoming opponents by compiling and organizing data for coaches and players.

TEACHING

- BIOF555, Foundations for Practical Single Cell RNA-seq Analyses [Teaching Assistant, Instructor: BaDoi N., Ph.D.], Fall 2024

- BIOF556, Advanced Topics in Single Cell Analyses [Teaching Assistant, Instructor: BaDoi N., Ph.D.], Fall 2024

- BIOF555, Foundations for Practical Single Cell RNA-seq Analyses [Teaching Assistant, Instructor: BaDoi N., Ph.D.], Spring 2024

- BIOF556, Advanced Topics in Single Cell Analyses [Teaching Assistant, Instructor: BaDoi N., Ph.D.], Spring 2024

- BIOL 03133, Neurobiology of Disease [Teaching Assistant, Instructor: Daniel J. Brasier, Ph.D.], Spring 2023

ADDITIONAL EXPERIENCE

Opinion Editor and Science Columnist | Daily Tar Heel [AUG 2019 - MAY 2022, CHAPEL HILL, NC]

Residential Computing (IT) Consultant | UNC Housing [AUG 2020 - MAY 2021, CHAPEL HILL, NC]

Summer Research Intern | Meyer Lab at Cold Spring Harbor Laboratory [JUNE 2021 - AUG 2021, COLD SPRING, NY]

Summer Research Intern | Colbert Lab at NIAMS, National Institutes of Health [JUNE 2019 - AUG 2019, BETHESDA, MD]

Research Intern | Ley Lab at La Jolla Institute for Immunology with publication [JAN 2019 - JUNE 2019, LA JOLLA, CA]

STEM Head Instructor, Administrative Assistant | Zaniac Parkside [JUN 2017 - MAY 2021, CARY, NC]