

Varsha Srinivasan

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🎓 Education

MS Bioinformatics, *Georgia Institute of Technology*
CGPA: 3.66/4.0

Aug 2022 – Dec 2023
Atlanta, GA, US

B. Tech. Chemical Engineering; Minor: Computer Science and Engineering,
National Institute of Technology, Tiruchirappalli
CGPA: 8.56/10.0 (First class with distinction)

Aug 2018 – May 2022
Trichy, TN, India

💡 Skills

Technical skills

Bioinformatics,
Computational biology,
Genomics, NGS data
analysis, Machine
learning, Data science
and visualization,
Statistical methods

Programming

Python, R, Bash/Linux,
SQL, C++, CSS, HTML,
Javascript

Software

Bioinformatics software,
Microsoft Excel, Tableau,
MATLAB

Cloud Platforms

Amazon Web Services,
Databricks, Microsoft
Azure, Google Cloud
Platform

📁 Work Experience

Graduate Research Assistant, *Jordan Lab, Georgia Institute of Technology*

Sep 2022 – Dec 2023
Atlanta, GA, US

- Developed an integrated clinical-polygenic tool to predict the risk of colorectal cancer in participants
- Designed and implemented experiments aimed at testing the effectiveness of the risk prediction model
- Conducted extensive literature reviews and data analysis to inform research findings and ensure that results were grounded in the latest scientific research
- Collaborated with a multidisciplinary team of researchers and healthcare professionals to ensure that research was informed by diverse perspectives and responsive to the needs of patients

Research Intern, *Indian Institute of Technology, Madras*

May 2021 – Jul 2021
Chennai, TN, India

- Analyzed the WGS data of *A. baylyi*, which was subjected to adaptive laboratory evolution in order to break down lignin to produce green fuel
- Discovered, compiled, and analyzed the mutations undergone by the bacteria to understand the changes they caused

📁 Projects

Comprehensive Genome Browser for Genome Analysis

Oct 2023 – Dec 2023

- Developed a user-friendly genome browser that incorporates current state-of-the-art downstream analyses and plugins for a cohesive, intuitive experience
- Integrated large biological datasets to an all-in-one type approach to standard practice, aligning with the principles of human-computer interaction

Brain Tumor Image Analysis using a Deep Learning Framework Pipeline Built on Monai Mar 2023 – Apr 2023

- Explored a solution to the complexities of labeling biological data by analyzing MRI scans of brain tumor patients (brain tumor segmentation - gliomas) coupled with context restoration
- Created a segmentation model, evaluated it using the Dice coefficient, and trained it using deep learning

Computational Genomics Analysis of Salmonella enterica Outbreak Jan 2023 – Apr 2023

Performed two tasks as part of a five-task project:

- Gene prediction on bacterial disease outbreak genomes
- Comparative genomics analysis to determine the source of the pathogen, and recommendations to the CDC to help prevent such an outbreak

Whole Exome Sequencing Analysis of a Male Colombian from Medellin, Colombia Nov 2022 – Dec 2022

- Analyzed the exome sequence of a male Colombian of American ancestry from Medellin, Colombia
- Identified and studied a rare non-synonymous pathogenic variant and modeled its protein structure

Gene Expression Data Analysis of Mutations in Arabidopsis thaliana Oct 2022 – Nov 2022

Performed a comparative analysis of the transcriptional and alternative splicing changes in mdf-1 and prp8a-14 mutations to the wild type of *A. thaliana* to determine the shared genes between species that were differentially expressed

Restaurant Supply Express - Drone Delivery Database Oct 2022 – Dec 2022

Formulated a schema and created an extensive database with tables, views, and stored procedures to depict a system where drones that were manned by pilots were used to supply ingredients to restaurants that required them

Coursework

Graduate, Georgia Institute of Technology Atlanta, GA, US

Genomics Applied Bioinformatics, Programming for Bioinformatics, Introduction to Database Systems, Computational Genomics, Machine Learning for Computational Biology, Experimental Design and Statistical Methods, Evolutionary Biology, Data and Visual Analytics

Undergraduate, National Institute of Technology, Tiruchirappalli Trichy, TN, India

Big Data Analytics, Data Structures and Algorithms, Database Management Systems, Operating Systems, Data Communication and Networks, Software Engineering, Web Technology

Online

Python for Data Science, Machine Learning, Deep Learning Specialization (*Neural Networks and Deep Learning, Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization, Structuring Machine Learning Projects, Convolutional Neural Networks, Sequence Models*), Introduction to Data Analysis Using Excel, MATLAB Onramp