MAYA GUPTA

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EDUCATION

Princeton University   Expected May 2026
Ph.D. candidate in Computer Science

University of Illinois at Urbana Champaign (UIUC)   May 2021
B.S. with high honors in Computer Science

RESEARCH EXPERIENCE

Princeton University   Sep 2021-
Computer Science PhD Student

I did my first rotation with Professor Barbara Engelhardt with whom I looked at fMRI scans to understand how neurodegenerative diseases affects brain mapping. I am currently doing a second rotation with Professor Yuri Pritykin where I am working on optimizing the pre-processing steps of analyzing single cell RNA sequencing data.

University of Illinois at Urbana-Champaign   Mar 2020-Aug 2021
Researcher in Prof Tandy Warnow's Lab (Department of Computer Science)

Focused on a Bayesian co-estimation software for multiple sequence alignment and phylogeny estimation called BAli-Phy – this software is highly accurate yet very computationally intensive with long run times. Worked on a way to scale co-estimation methods using BAli-Phy without compromising accuracy. Able to scale BAli-Phy to 1,000-sequence datasets, which are 10 times larger than the largest sequence datasets BAli-Phy is known to have run.

University of California at Los Angeles (UCLA)   May 2020-Dec 2020
Researcher in Prof Peipei Ping's Lab (School of Medicine)

Initially worked on design and development of a software solution aimed at examining entities related to COVID-19 as preliminary work for a grant proposal. Queried thousands of research publications to extract relevant data related to COVID-19 signs and symptoms, COVID-19 comorbidities, and cardiovascular diseases. Enabled a better understanding of relation of cardiovascular entities to COVID-19. Then worked on using machine learning techniques to further decode COVID-19 complications in patients with pre-existing cardiovascular conditions.

TEACHING EXPERIENCE

Microsoft Teals   Sep 2021-
Co-Teacher

Am a teaching assistant at P-Tech Edison in Rochester, NY, where I co-teach a high school introduction to computer science class along with four other people. I teach, grade, and mentor students with their Python code twice a week throughout the school year. Class has about 30 students.

University of Illinois at Urbana-Champaign   Aug 2019-Dec 2020
Engineering Learning Assistant

Lead instructor for Engineering 100, a required first-semester class for all incoming engineering freshmen. I teach, grade, guide, and mentor students to enable them to facilitate smoother transition into college. Have taught over 50 students over the past two years.

StreetCode Academy | Facebook Menlo Park, CA   Jun-Aug 2019
Volunteer Teacher

Co-instructed a web design class for 30 students aimed to enable students with the skills to design a website by the end of the eight-week class. Provided technical support and guidance to students with little to no experience with coding.

WORK EXPERIENCE

University of Illinois at Urbana-Champaign   Apr 2021-Aug 2021
New Student Registration Director

Director of new student registration for the summer and fall of 2021. Helped coordinate the logistics of advising and assisting almost 8000 freshmen with their first semester classes. Also managed and trained a team of 20 new student registration assistants who worked directly with freshman to guide and aid students when they ran into issues.

Uber | Palo Alto, CA   May-Aug 2019
Software Engineering Intern

Worked on the Driver Growth team. Automated marketing team's campaign analysis process by creating a full stack data pipeline. The pipeline queried campaign data for specific analysis metrics and displayed the data visualizations in an internal service tool for use by the marketing teams.

Capital One | Urbana-Champaign, IL   Sep-Dec 2018
Illinois Digital Campus Laboratory Fall Intern

Analyzed customer data to create a collaborative filtering system to improve the ad stream of a website.

Amazon | Seattle, WA   Jun-Aug 2018
Software Developer Engineer Intern

Worked on the AWS Core Infrastructure and Development team. Created an alerting and monitoring service to detect errors in an existing logging agent and then redirect them to the appropriate team for resolution. Presented the work to internal customers and incorporated their feedback.

SKILLS

Computer: Java, Python, C++, C, C#, Go, JavaScript, Haskell, React, SQL, R, HTML
Languages: English, Spanish, Hindi

PUBLICATIONS

Maya Gupta, Paul Zaharias, Tandy Warnow, Accurate large-scale phylogeny-aware alignment using BAli-Phy, Bioinformatics, Volume 37, Issue 24, 15 December 2021, Pages 4677-4683, https://doi.org/10.1093/bioinformatics/btab555

Sigdel D. et al. (2022) Understanding the Molecular Interface of Cardiovascular Diseases and COVID-19: A Data Science Approach. In: Zhang J., Serpooshan V. (eds) Advanced Technologies in Cardiovascular Bioengineering. Springer, Cham. https://doi.org/10.1007/978-3-030-86140-7_15