

Vaishnavi Gupta

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[personal website](#) | [github](#) | [linkedin](#)

EDUCATION

Cornell University, BA Computer Science + Math

August 2019 - May 2023

GPA: 4.00

ORGANIZATIONS

Women In Computing at Cornell
Cornell Concert Commission
Hortus Form (Horticulture Club)

COURSEWORK

Graduate Algorithms
Hons. OOP & Data Structures
Large Scale Machine Learning
Compilers
Functional Programming
Hons. Discrete Mathematics
Computational Genetics
Probability
Algebra, Hons. Real Analysis
Linear Algebra, Multivariable Calc

SKILLS AND TECHNOLOGIES

Software Design + Data Science

C++ Python (incl PyTorch)

Kotlin OCaml Java

Web Development

Frontend and backend experience

JS/Typescript (React, Node.js)

HTML5 CSS MySQL

AWARDS

Compilers Bakeoff Winner:

Awarded the best compiler for CS 4120 as a team of 3

Dean's List: all semesters

ACM-ICPC for Schools: 2nd in the India ICPC qualifiers amongst 100 high school teams

3-time Indian National Olympiad in Informatics

Finalist: Amongst the top 60 students in the country

EXPERIENCE

Facebook - Software Engineer Intern

June 2021 - August 2021

- › Worked on infrastructure in the Instagram Suggested Users team, to increase efficiency and recommendation quality. Used C++ and Python, as well as SQL and A/B testing frameworks for statistical analysis.
- › Optimizing cache refresh scheduling based on user activity prediction led to a 30% decrease in CPU cycles during peak hours, and an overall 10% decrease.

Cornell Design & Tech Initiative - Backend Developer

August 2020 - Present

- › I work on [CoursePlan ↗](#), a website helping Cornell students plan course requirements. Worked on setting up requirements infrastructure using a bipartite matching algorithm. So far, we have over 500 users!
- › Worked on [flux ↗](#), an app assessing crowdedness at Cornell eateries. Implemented M/M/1 queue model to predict wait-times using swipe data.

Cornell University - Undergraduate Researcher

January 2021 - Present

- › As a member of [CUAI ↗](#), I'm working on problems related to improving the performance of Graph Neural Networks on non-homophilous graph structures.
- › Also exploring better online algorithms for estimating distributions using comparison feedback, advised by Professor Robert Kleinberg.

Cornell University - Teaching Assistant

August 2020 - Present

I lead a weekly recitation section, hold office hours and grade problem sets as a TA for **CS 4820 - Algorithms** and **CS 2802 - Discrete Math Honors**.

PUBLICATIONS

- › Large Scale Learning on Non-Homophilous Graphs: New Benchmarks and Strong Simple Methods (*Accepted, NeurIPS 2021*)

PROJECTS

PhyloML - [Demo ↗](#) [Source ↗](#)

- › A phylogenetic tree library in OCaml to parse DNA sequence files and generate most-likely evolutionary trees, demoed via a React frontend.
- › Implemented distance-measure and Bayesian inference Markov Chain Monte Carlo sampling algorithms. This involved applying the Metropolis Hastings algorithm, dynamic programming, and heuristic based sequence alignment.
- › Wrote an XML lexer and parser from scratch to read in existing tree data.

Crunch - [Source ↗](#)

A fast command line tool written in C++ implementing various lossless file compression algorithms like LZW and Huffman Coding. This also involved designing bit-by-bit file reader and writer classes.