

Vaishnavi Gupta

(347) 437-1831

vg222@cornell.edu

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

EDUCATION

Cornell University, BA

Computer Science + Math

August 2019 - May 2022

GPA: 4.00

ORGANIZATIONS

Rewriting The Code Fellow
Women In Computing at Cornell
Cornell Concert Commission
Hortus Form (Horticulture Club)

COURSEWORK

Algorithms
Honors OOP & Data Structures
Functional Programming
Honors Discrete Mathematics
Computational Genetics
Linear Algebra, Multivariable Calc
Probability
Applicable Algebra
Large Scale Machine Learning
Compilers

SKILLS AND TECHNOLOGIES

Software Design + Data Science

Java Python (incl PyTorch)

C++ OCaml Kotlin

Web Development

Frontend and backend experience

JS/Typescript (React, Node.js)

HTML5 CSS MySQL

AWARDS

Winner of Compiler Bakeoff

Awarded the best compiler for CS 4120

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 - present

- › Working on infrastructure in the Instagram Suggested Users team, to increase CPU efficiency and user recommendation freshness by optimizing cache refresh times.

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 locations on the Cornell campus. Implemented an M/M/1 queue model to accurately predict queue wait-times using swipe data, which improves through crowdsourced feedback.

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 2802 - Honors Discrete Math** and **CS 4820 - Algorithms**.

Buckler Lab, Cornell University - Undergraduate Researcher

June 2020 - August 2020

Worked on BioKotlin, a statically typed library providing optimized genetic analysis tools, and using machine learning to predict haplotypes by optimally stitching fragmented DNA alignments.

All India Institute of Medical Sciences, India - Developer

January 2018 - July 2019

- › Built an [online learning platform](#) ↗ to train medical students and doctors on optimal neonatal care practices; scaled up to 10,000+ users across India
- › Implemented the platform from scratch, with features like interactive timed quizzes, webinars, and automatic certificate generation.

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.