Vatsal Baherwani

Computer Science Student

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Current Software Engineering Intern with professional experience working in a corporate environment. Strong foundation in mathematics, logic, and algorithms with interests in software engineering, artificial intelligence, and finance.

SKILLS

Python | Flask | Java | HTML/CSS | JavaScript | jQuery | Node.js | Vue.js | PostgreSQL | C | C++ | Linux | Docker | Ruby on Rails | GraphQL | Rest APIs | Object Oriented Programming | Aspect Oriented Programming | Functional Programming | Problem Solving | Collaboration | Communication | Adaptability

WORK EXPERIENCE

Software Engineer Intern
09/2020 - 08/2021

Bloomberg, L.P.

As part of the Bloomberg Law Release Engineering Team, I worked on an all-in-one dashboard for managing the Bloomberg Law permissions database. On the backend, I modified an existing Java server to make it RESTful and accept HTTP requests using Spring Framework. On the frontend, I built a Vue.js app from scratch that used GraphQL and Ruby on Rails to communicate with the backend. The dashboard allowed for creating/reading/updating/deleting permissions and generating a diff between the alpha, beta, and production permissions databases. Additionally, it allowed for creating and updating groups of users, and assigning permissions either globally, to specific users, or to entire groups. Throughout the development of this dashboard I frequently communicated with other software engineers and team leaders to receive feedback and shape the user experience to best fit an engineer's needs.

EDUCATION

Bergen County Academies - Academy for Technology and Computer Science
09/2017 - 06/2021

Hackensack, NJ

GPA: 4.0/4.0

Web Development: Worked on backend form handling for the school's student dashboard using Flask.

C & Data Structures: Established a foundational understanding of C, assembly, and machine code and learned about various low-level implementations of data structures including hash maps, linked lists, array lists, stacks, and queues.

Math Foundations of CS: Reviewed boolean logic and learned about set theory, proofs of recursive algorithms using induction, and orders of infinity.

Functional Programming: Learned about foundational concepts in functional programming, and wrote various programs implementing algorithms in Scheme. Became familiar with lambda calculus and wrote a custom lambda calculator in Java as a final project.

Computational Theory: Discussed various theoretical aspects of CS including deterministic and non-deterministic finite state automata, Turing machines, and Turing completeness.

Advanced Topics in Mathematics: Developed a rigorous understanding of linear algebra up to infinite dimensions, multivariable calculus, and basic complex analysis. Explored applications of multivariable calculus in computational modeling and machine learning.

PROJECTS & ACTIVITIES

UnionBlue
09/2020 - 06/2021

As part of a team for my computer science capstone project, I developed a website for a friend's client that would display PPE inventory for the Teamster's labor union and facilitate contact between the union and the PPE distributor through a secure email form. I also helped implement an admin view for creating, updating, and deleting items in stock.

Plannet
02/2020

I designed a web application that enables a user to plan and coordinate hangouts between friends easily and effectively using Google accounts and an open source map API. This project won the "Best Vision" award at my school's annual hackathon, hackBCA.

Computer Science Teacher
09/2019 - 03/2020

Hasbrouck Heights Public Library

Coordinating with the library director, I planned and scheduled a weekly programming class for middle school students. I created and taught an introductory curriculum that established the fundamentals of computer science and programming in Python.