Gabriel Alzate

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EDUCATION

Pomona College, Claremont, CA
Bachelor's in Computer Science, minor in Mathematics; GPA: 3.92 Expected May 2021

Relevant coursework: Data Structures, Algorithms (IP), Machine Learning (IP), Combinatorics (IP), Computer Systems, Linear Algebra, Discrete Mathematics, Intro to Data Science

Programming Languages: Proficient in Java, Python, C, C++; familiar with Dart, HTML, CSS, Javascript

EXPERIENCE

Head Computer Science Teaching Assistant; Claremont, CA **Feb 2019 - Present**

- Collaborate with a team of experienced students to tutor 35 students in small groups for the Data Structures and Advanced Programming class
- Conduct 2 weekly mentoring sessions to guide students through weekly assignments and address conceptual questions discussed in lecture
- Meticulously grade 6-8 assignments per week, paying close attention to (**Java**) code correctness, design, and reliability; and optimizing code when necessary

Software Engineering Intern, **Kalibrr, Inc.**; Manila, Philippines **June 2019 - August 2019**

- Conducted intensive research on the benefits of a shift from **REST** API's to HTTP/2.0-based **gRPC**'s for Kalibrr, a Southeast Asian online job platform
- Engineered gRPC microservices in **Python** for Kalibrr's **PostgreSQL** database which improved API response deserialization time by a factor of 4 and reduced payload size by 60%
- Created 3 edge and service proxy servers using **Envoy** to maintain HTTP/1.x backward compatibility with Kalibrr's 650 company clients
- Taught myself **Nginx** and basic **Golang** to create and optimize these proxy servers which eliminated concurrency errors, reducing response time by 50%
- Deployed Kalibrr's first HTTP/2.0-compliant, HTTP/1.0 backward-compatible **Docker** microservices

Software Development Intern, **Middle Tree (MT)**; Claremont, CA **Feb 2019 - May 2019**

- Developed **Bash** and Zoho scripts to manage the CRM of over 150 students of Middle Tree, a nonprofit education center that provides affordable tutoring
- Created a sign-in/out page that updates MT's database for its daily 10-20 users with a median latency of 32ms using **jQuery** and **Google Sheets API**
- Optimized the webpage style for MT's front desk tablets and deployed the site on Github Pages

PROJECTS

Game Tree: Built an *n*-ary tree in **Java** to create a computer that plays simple, deterministic games such as tic-tac-toe and prunes losing tree branches

Song and Speech Generator: Developed a Markov Chain to read songs and speeches with *n*-prefix states and produce speeches and song lyrics in **Java**

Ring Buffer: Implemented a circular buffer in **C** that uses locks and conditional variables to handle the producer-consumer problem in a thread-safe manner

PATH: Created 'PATH', a **Flask** web app that suggests the best travel option in Claremont based on transport, price, time, and distance; incorporated Google Direction Services and Uber API

CO-CURRICULAR ACTIVITIES

Doubles Badminton Player, 5C Intramural Badminton Team, Pomona College Sept 2018 - Present
Board Member, Violinist, Symphonic Student Association, UC San Diego Sept 2017 - June 2018