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 and Advanced Programming (Java, C, C++), Discrete Mathematics, Linear Algebra, Computer Systems (C), Intro to Data Science (Python)

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

EXPERIENCE

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

- Conducted intensive research to help Kalibrr (a regional online job platform startup) transition their backend to an HTTP/2.0- and RPC-based microservice architecture
- Engineered a demo microservice in **Python** using **gRPC** which improved data deserialization speed by a factor of 3 and reduced payload size by 60%
- Created 3 edge and service proxy servers using **Envoy** to ascertain 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 the demo as a **Flutter** mobile app and Kalibrr's first HTTP/2.0-compatible Docker microservice

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 code correctness, design, and reliability; and optimizing code when necessary

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 each of 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 a k-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