

Mateo Bernasconi Vargas

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 github.com/mateobv07

EDUCATION

Instituto Tecnológico de Estudios Superiores de Monterrey Aug. 2021 – June 2025 (Expected)
B.S. in Computer Science and Technology Guadalajara, MX
GPA: 97/100

WORK EXPERIENCE

Google Aug. 2024 – Nov. 2024
Software Engineer Intern Sunnyvale, CA

- Implemented a **C++ thread pool** to export real time prober data, managing concurrent writes across distributed prober tasks and ensuring synchronized region health tracking
- Developed **C++** logic to aggregate region health data, enhancing dual region Spanner availability with automated fallback recommendations and preventing incorrect manual configurations

Microsoft June 2024 – Aug. 2024
Software Engineer Intern Redmond, WA

- Developed an **eBPF** for Windows program for DNS DDoS mitigation, performing packet filtering at the kernel level successfully dropping over 5 million malicious packets per second on a 8-core machine while still serving legitimate traffic
- Implemented a bloom filter using the Murmur3 hash algorithm in **C**, leveraging eBPF maps to load JSON configurations from user space, optimizing the DDoS mitigation program's efficiency and adaptability

Adok Jan. 2024 – May 2024
Software Engineer Guadalajara, MX

- Developed an end-to-end document automation solution with **AWS S3** integration, a **TypeScript** parser, and promise handling, streamlining document creation and reducing user time by over 40%
- Integrated **Stripe** for managing memberships and payments, enhancing the user experience and increasing revenue
- Implemented database models in **MongoDB**, in addition to creating **tRPC** endpoints for CRUD logic

Google June 2023 – Sept. 2023
STEP Intern Atlanta, GA

- Created a Pub/Sub topic enabling the broadcasting of rollbacks that met specific criteria within Google's code base, complemented by an **RPC** endpoint using **C++** to proactively inform opted in teams of potential issues
- Coded **SQL** queries to automatically detect, track and visualize degradation with team's code findings

Intel Oct. 2022 – June 2023
Software Engineer Intern Guadalajara, MX

- Identified and fixed numerous front-end UI bugs within the team's **Angular** based application, leading to a better user experience and enhanced usability
- Utilized **Cypress** to develop over 40 automated end-to-end tests ensuring robust continuous integration

PROJECTS

Youtube Clone Oct. 2023 – Dec. 2023

- Utilized **Google Cloud** Pub/Sub as a message queue to trigger **Cloud Functions** for video processing with FFmpeg, to learn about scalable and reliable content management
- Coded a responsive front-end by leveraging **React** and **TypeScript**, mimicking YouTube's core functionalities
- Made use of **Firebase** for secure data storage and took advantage of Firebase Functions to develop an API

TECHNICAL SKILLS

Programming Languages: Python, C++, C, TypeScript, SQL, HTML/CSS

Frameworks/Technologies: React, Django, Express.js, Next.js, Matlab, Tailwind