

Ernesto Barreto

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Skills

- **Programming Languages:** JavaScript, Python, C++, Typescript, Java, Golang, SQL, ARM Assembly
- **Technologies:** Node, Flask, Redis, Nginx, Elasticsearch, RabbitMQ, Postman, GraphQL, Docker, MongoDB, Postgres, React, Tailwind, Windows OS, Unix, Linux
- **General Skills:** API's, unit testing, integration testing, CI/CD, Git, database scaling, software design and architecture, English, Spanish, Japanese, Italian

Experience

SCHULICH RACING / *Software Developer* / *University of Calgary* / *October 2022 – 2024*

- Created, updated, and maintained the interdisciplinary racing team's backend. API gateway built using **Node** and **JavaScript**. Frontend built using **React** and **Typescript**.
- Built a streaming service in **Python** and **Flask** to receive and publish IoT device data to **Redis** and send real time data to the API gateway.
- Wrote a data API in **Golang** that subscribes to **Redis** for caching and in-memory storage.
- Contributed to the creation of race car metadata simulations in **C++** using data stored in **Postgres**.
- Created **CICD** pipelines to containerize microservices using **Docker** and run automated tests.

COMPETITIVE CODING CLUB / *Academic Executive* / *University of Calgary* / *September 2022 – 2024*

- Designed, programmed, debugged, and tested coding problems to be solved by club members and to be uploaded to Kattis. **LaTeX** was used for prompt formatting, **Python** and **C++** for automatic testing.
- Designed and programmed coding problems to be used in official Alberta Collegiate Programming Contest and Calgary Collegiate Programming Contest competitions.
- Supervised and provided help to ACPC and CCPC contestants.

Education

UNIVERSITY OF CALGARY / *2021 – present*

- Bachelor of Science in Software Engineering and Bachelor of Commerce, minor in Business Analytics.

Notable Projects

MOVIE RECOMMENDATION SITE – GOOGLE HACKATHON / *2024*

- Led and built the entire backend of the site using **JavaScript** and **Node**. Built an API and tested endpoints with **Postman**. Deployed site on the cloud using **Vercel**.
- Ensured proper security by implementing HTTPS, user authentication and authorization via **JWT**'s, and encrypted hashed and salted passwords.
- Led planning, created software requirement specification document, created system design diagrams, using Kanban boards for **AGILE** development and organization.