Juan Bello Gonzalez

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Education

University of Waterloo | *Bachelor of Mathematics, Honors, Cooperative Education* *December 2024*
Relevant courses: Object Oriented Programming, Database Management, Algorithms, Optimization, Stochastic Processes, Game Theory, Machine Learning, Data Analysis, Forecasting, Numeric Computation.

Technical Skills

Languages: Python, JavaScript, TypeScript, HTML/CSS, C++, C, Java, SQL, R, Matlab.
Tools: React, Node, Django, AWS, Docker, Kubernetes, Terraform, Prometheus, Grafana, Git.

Experience

Versa Networks | *Cloud Developer Intern* *May 2023 - Dec 2023*

- Developed **Kubernetes microservices** for SaaS vendors within an API-based data-protection cloud cluster.
- **Established webhooks** for each vendor to extract files and enforce network security policies across all company accounts, resulting in the detection of **100+ types of security threats.**
- Automated deployments to **Google Kubernetes Engine** using **Terraform** and **Helm**, reducing deployment time by **40%.**
- Designed and implemented **Grafana dashboards** to monitor metrics such as webhook traffic and API call errors, improving error detection speed and providing real-time visibility of system health.

Catalyst Technologies | *Backend Developer Intern* *May 2022 - Aug 2022*

- Developed the backend for a blockchain-based platform enabling farmers to estimate carbon credit offsets earned through sustainable agricultural practices.
- Designed and tested 30+ **RESTful API** endpoints using FastAPI and Pytest, achieving **85%** test coverage.
- Designed and implemented type-validated, object-oriented Python modules using Pydantic within a Model-View-Controller (MVC) design pattern, enhancing code readability and maintainability.
- Streamlined database operations by utilizing Object-Relational Mappings, enabling the seamless integration of **20+ schemas** and reducing query execution time by **25%**.

SYMX.AI | *Software Developer Intern* *May 2021 - Mar 2022*

- Developed and deployed **AWS Greengrass** components with Python to process, persist, and offload real-time sensor data from **IoT edge** devices in mining drills to HMI displays and data mule devices, enabling efficient and reliable data extraction from remote locations without internet access.
- Implemented WebSockets to establish a connection between the HMI frontend and edge backend, leveraging concurrent programming to **reduce latency by 40%** and ensure real-time data transmission across physical devices.
- Implemented and optimized the MQTT protocol for data offloading, achieving target throughput rates while maintaining Quality of Service (QoS) level 2.
- Collaborated directly with clients to gather specifications and conducted on-site drill testing in Sudbury, Ontario, ensuring the solution met real-world operational requirements.
- Documented and shared knowledge by creating comprehensive documentation and training coworkers on AWS Greengrass components, enhancing team productivity and onboarding efficiency.