

# Axel Sanchez

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## Education

University of Calgary, Bachelor of Science in Software Engineering

September 2021 – April 2026

- GPA: 3.2/4.0

## Experience

Software Engineer Intern, Microsoft – Vancouver, British Columbia

May 2025 – August 2025

- Implemented custom CUDA all-reduce for intra-node tensor parallelism on an NVIDIA H200 GPU cluster and integrated it as a TRT-Allreduce plugin with P2P/NVLink fallback with C++
- Built NVIDIA GPU communicators and CUDA kernel launchers in C; benchmarked against NCCL and optimized GEMM strategies across FP16/FP32
- Collaborated with research and AI teams; reviewed peer-reviewed literature and translated findings into system designs and experiments

Full Stack Engineer Part-Time, Agrivanna – Calgary, Alberta

September 2024 – April 2025

- Designed RESTful microservices in Go, Java and Spring Boot; integrated a scikit-learn Gradient-Boosting model to deliver personalized health recommendations
- Developed a supervised time-series algorithm in PyTorch to predict livestock health from Kafka streams; stored features in PostgreSQL and launched a FastAPI Docker image service on Kubernetes
- Mentored an engineer through Docker and Kubernetes workshops, strengthening team's DevOps capabilities

Cloud Developer Intern, Aptum – Calgary, Alberta

May 2024 – April 2025

- Maintained production and development deployments with Terraform and Helm on Kubernetes; doubled processing throughput by scheduling cron jobs in a Jenkins CI/CD pipeline
- Migrated a legacy monolith to gRPC-based microservices with Java, Spring Boot and MySQL, enhancing scalability and boosting performance by 66%
- Onboarded new interns to backend/DevOps stack and practices, accelerating time-to-productivity

Vice-President Software Development, Student Energy UCalgary – Calgary, Alberta

September 2023 – April 2024

- Leveraged an interactive chapter news web app with Next.js and TypeScript, raising site engagement by 70% and enhancing UI state reliability with Redux
- Automated resources creation and hosting on AWS with Terraform and GitHub Actions CI/CD pipeline, streamlining release reliability and reducing deployment time across teams
- Led chapter-wide interviews for junior software engineers; defined selection rubrics and succession guidelines for future vice presidents

Backend Engineer Part-Time, ReThread – Calgary, Alberta

September 2023 – April 2024

- Architected RESTful microservices in TypeScript and Express; reduced latency with Redis caching and rolled out on Kubernetes in AWS
- Prototyped a convolutional neural network (CNN) in PyTorch to classify fabric materials; managed datasets in Amazon S3 and deployed Docker images to Kubernetes via Jenkins
- Coached backend team on Git and GitHub Actions; established branching strategy, code-review standards, and CI conventions

Software Engineer Intern, Sigma Foodservice – Calgary, Alberta

May 2023 – August 2023

- Integrated the Copomex API into location service using C# and .NET for 10,000+ locations, improving address accuracy by 80%
- Delivered end-to-end tests and a Jenkins CI/CD pipeline for the eCommerce UI web app via JavaScript and Playwright, cutting QA Team time by 98.75% and increasing deployment frequency
- Conducted sprint review meetings with business stakeholders; provided actionable feedback and aligned priorities and scope

Frontend Engineer Part-Time, Bandist – Calgary, Alberta

September 2022 – April 2023

- Embedded a Python and Django monolith with the Ticketmaster and Spotify APIs to streamline registration and cut development costs by 20%; managed PostgreSQL database and GCP hosting for 10,000+ MAU
- Crafted and shipped a cross-platform mobile app Flutter and Dart to the Apple App Store and Google Play; maintained 99.95% uptime on Firebase
- Initiated and presented multiple UX/UI prototypes in Figma; synthesized feedback into iterative designs and developer handoffs

## Certifications

AWS Certified Cloud Practitioner, Amazon Web Services

May 2024

Microsoft Certified Azure Fundamentals, Microsoft

February 2025

## Skills

**Technical Skills:** C, C++, C#, Java, JavaScript, TypeScript, Python, Go, Rust, Swift, Dart, SQL, Solidity, Distributed Systems, Microservices, API Design, MLOps, Parallel/GPU Computing, Performance Optimization, Data Structures, Algorithms, Azure, AWS, GCP, Blockchain, Kubernetes, Docker, Helm, Terraform, Kafka, RabbitMQ, MySQL, PostgreSQL, Firebase, .NET, Spring Boot, Express, Django, React, Next.js, Vue.js, Redux, Expo, Flutter, Vite, Tailwind, jQuery, Less, CSS, Framer Motion, gRPC, Prisma, JWT, PyTorch, CUDA, NCCL, Jenkins, GitHub Actions, Azure Pipelines, Azure DevOps, JUnit, Jest, Spock, Cucumber, Playwright, Git, Linux/UNIX, Jira, Trello, Figma, SAP

**Soft Skills:** Analytical problem-solving, Technical communication, Leadership, Mentorship, Cross-functional collaboration, Initiative, Ownership, Empathy, Stakeholder management, Prioritization, Time management, Decision-making, Conflict resolution, Adaptability, Accountability, Attention to detail