

JUAN SEBASTIÁN VACA TIBOCHA

M.Sc. in Information Engineering, Universidad de los Andes

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Bogotá, Colombia

OBJECTIVE

Data Engineer focused on designing scalable cloud analytics infrastructure that turns data into business decisions. Seeking roles with international scope and full availability to travel.

SUMMARY

Bilingual (Spanish and English) Data and Software Engineer with over 5 years of experience building analytics infrastructure, full-stack systems, and data pipelines across EdTech and enterprise environments. I contributed to the development of Blackboard Ultra, a platform serving students at more than 500 universities worldwide, where I built product features and infrastructure focused on scalability, performance, and data-driven decisions.

Specialized in cloud architectures on AWS: design and implementation of pipelines, ETL processes, automation, and serverless services, plus data modeling and governance in Snowflake, taking applications from architecture to production. I combine analytical vision with engineering rigor to translate business needs into scalable, maintainable solutions, with a focus on impact.

I pair technical rigor with a collaborative, adaptable profile, which lets me align diverse teams and sustain complex projects through to production.

WORK EXPERIENCE

ALQUILERES J&M - EQUIPMENT RENTAL SYSTEM (Freelance)

Nov 2025 - Present

Design and build, end to end, a full-stack equipment rental management platform for a construction company.

Achievements

- Deployed the platform to production on AWS EC2 and RDS, managing more than 200 assets with real-time inventory tracking, client billing, and an admin panel. Replaced a manual process based on pen, paper, and Excel spreadsheets, which streamlined client pre-billing and improved inventory control. Stack: Next.js, Fastify, PostgreSQL.

ANTHOLOGY – BLACKBOARD

Sep 2021 - May 2026

Positions held:

Software Engineer I

Oct 2024 - May 2026

Developed features to improve the Blackboard Ultra product.

Achievements

- Built and deployed end-to-end features across a React frontend and a Java/TypeScript backend, including new release conditions that gave instructors control over students' adaptive learning paths.
- Ran performance testing (SME) using Aladdin, allowing features to be reviewed under real load conditions and validating production readiness before each release cycle.
- Upheld engineering standards through structured code reviews and close collaboration with PMs, QA, and design in an agile environment, which reduced code rework, made the codebase more maintainable, and strengthened trust across teams and engineers.

Associate Software Engineer

Sep 2021 - Oct 2024

Owned ETL pipelines and serverless functions on AWS for large-scale data ingestion, supporting the platform's analytics layer.

Achievements

- Built ETL pipelines and AWS Lambda functions for large-scale data ingestion through S3 and API Gateway, and designed QuickSight dashboards, enabling administrators at more than 500 universities to make data-driven decisions.
- Migrated a critical provisioning flow to AWS Step Functions, replacing a fragile process with a state machine resilient at scale, which eliminated data-processing timeout errors and reduced provisioning failures.

- Modeled data in Snowflake and applied row-level security (RLS) based on institutional hierarchy and business rules, ensuring consistent, secure data and reliable BI reports for more than 500 university *tenants*.
- Promoted to the Blackboard Ultra product team in 2023, where I contributed full-stack features in React and Java/TypeScript used by millions of students, later advancing to Software Engineer I.

HEINSOHN

Jul 2020 - Sep 2021

Positions held:

Junior Software Engineer

Jan 2021 - Sep 2021

Delivered BI dashboards, reports, and pipelines for enterprise clients, supporting data infrastructure and data quality in production.

Achievements

- Built BI dashboards and reports in Qlik Sense for enterprise clients such as DHL Global Forwarding, and developed ETL pipelines with SSIS and SQL Server feeding reliable data flows into the data warehouse, which made it possible to answer new business questions as the data grew and to support informed decisions.
- Administered the databases and supported data quality, resolving incidents across databases, warehouse layers, and ETL jobs in production environments.
- Promoted from intern to full-time in 6 months for my performance and ability to solve problems independently, taking on broader responsibilities.

Innovation & BI Intern

Jul 2020 - Dec 2020

Supported internal innovation initiatives and client BI projects from day one.

Achievements

- Designed a cross-department internal innovation strategy and contributed to real client projects with Qlik Sense from day one, which made it possible to document previously informal processes and improve knowledge management and sharing across areas.

EDUCATION

M.Sc. in Information Engineering (Universidad de los Andes)

Jan 2022 - Jul 2024

- Thesis: Designed an ML system for Sika that predicts inventory-expiration probability from historical data, helping reduce operational losses and improve stock rotation.

B.Sc. in Systems and Computing Engineering (Universidad de los Andes)

Aug 2016 - Dec 2020

- Thesis: Built a signal-classification system to identify 4 types of epileptic spikes in pediatric EEG recordings using features based on spike timing and power.

TECHNICAL SKILLS

- **Languages:** Python · TypeScript · JavaScript · Java · SQL
- **Frontend:** React · Next.js · HTML · CSS
- **Backend:** Node.js · Fastify · REST APIs
- **AWS:** Lambda · Step Functions · EC2 · RDS · S3 · API Gateway · Glue · QuickSight · CloudWatch · IAM · CloudFormation
- **Data:** Snowflake · PostgreSQL · SQL Server · ETL · SSIS · Data Pipelines
- **BI & Testing:** Qlik Sense · Aladdin (Performance Testing)
- **DevOps:** Docker · Git · GitHub · CI/CD
- **AI Tools:** Claude Code · GitHub Copilot · OpenAI Codex
- **Certifications:** AWS Cloud Practitioner · AWS Solutions Architect Associate (in progress)