

Daniel Astudillo

✉ daniel.astudillo404@gmail.com  daniel-m-astudillo  danielastudillo.io

EXPERIENCE

Software Engineer II

Mobility Global (formerly S&P Global Mobility) October 2025 – Present, New York, NY

- Co-established the architecture of **Data Studio**, a **Module Federation** platform (Fastify BFFs, shared contracts, CI gates) that **30+ engineers** build on, hosting three applications for **100+ internal and external production users**; led **60+** multi-service deployments on **GKE**.
- Won a **Tech Excellence Award** (Q2 2026) for knowledge sharing and team enablement (architecture sessions, onboarding, data-layer guidance, documentation other teams follow) and an **Innovation Excellence Award** (Q3 2026) with my team for the Retail Pricing: Benchmark platform.
- Cut a **Financial Detail API** over an indexed **519M-row ClickHouse** table from **30–35s to 3–5s cold and 0.8–1.6s warm** in production: fixed a query-planner regression (**12.19s to 0.43s**), replaced **482M** per-row dictionary lookups with a hash-set CTE, and split reads across **3 replicas**.
- Cut **DaaS** API query time from **~21s to ~10s** with the **BigQuery Storage Write API v2** and **gRPC**, then to **under 2s** by migrating **10+ API routes** to **EF Core + PostgreSQL**; raised Gateway and API test coverage above **90%**.
- Built the **Auth0** identity layer (organizations and **RBAC**, **OIDC** token exchange, session resume) and implemented **ReBAC** authorization on **OpenFGA**; found **5 defects before production**, verified with real-server tests and **mutation checks**.
- Hardened the request path with **HMAC-SHA256** request signing, per-user **Redis rate limiting** and **IDOR** checks; resolved **100+** high and medium vulnerabilities and **200+** SonarCloud issues, and migrated off a high-severity **CVE** the day it was found.
- Built the team's **Claude Code** workflow: agent skills that turn a PBI into a reviewed pull request, onboard remotes, deploy and generate tests (new-service setup from days to a checklist), plus **ADR tracking**, spec docs and **spec-driven development**.
- Fixed inconsistent real-time delivery across **Kubernetes** pods with a **Redis backplane for SignalR** and a **Redis distributed lock**, and fixed a customer-reported data-visibility issue with one tested predicate builder shipped to production.

Software Engineer

Visa Inc. September 2022 – February 2025, Miami, FL

- Modernized the **Visa Card Eligibility Service (20M+ monthly requests)**, upgrading to **.NET 6** and **Spring Boot 3**, **improving critical-path API latency by 18%** and **cutting average response time by 15%**.
- Developed the first real-time benefit redemption processing system between **VCES** and the **Visa Digital Benefits Platform (VDBP)**, handling **100K+ daily events** with **Dockerized ActiveMQ Artemis message broker instances**, a **.NET Core AMQPS producer (VCES)**, and a **Spring Boot Jakarta JMS consumer (VDBP)**, achieving **99.99% uptime** and **sub-200ms event latency**.
- Rebuilt **200+ T-SQL stored procedures** into APIs, decreasing **95th-percentile latency by 40%** and **maintenance overhead by 60%**, streamlining backend operations.
- Migrated Visa **Click to Pay to Next.js + React**, achieving **40% faster page loads** and **30% fewer API errors**, which enhanced checkout **reliability** and scaled seamlessly for **10M+ global users per month**.
- Engineered a **PCI-compliant data masking service** protecting sensitive cardholder information **in transit and at rest** for **VCES** to support regulatory requirements and bolster platform security.
- Built a **GenAI contract-redlining assistant** at a hackathon (Django, Flask, **LangChain**, on-prem **Chroma** vector database), a company-supported initiative: **~30%** less manual review time and **~90%** top-3 retrieval in UAT, then average B2B contract cycle time down **40–50%** (~4–5 to ~2–3 months, 2024).

EDUCATION

B.A. in Computer Science & Mathematics

Williams College · Williamstown, MA · June 2022

Advanced Cybersecurity Program (certificate)

Stanford Center for Professional Development · September 2024

SKILLS

Languages: C#, Java, TypeScript, Python, SQL (PostgreSQL, T-SQL), JavaScript (ES6+)

Frameworks: .NET 10 / .NET Core, EF Core, Spring Boot, Node.js, Fastify, React, Next.js, Django, Flask, SignalR, gRPC

Databases: PostgreSQL, ClickHouse, Redis, MongoDB, Google BigQuery, MSSQL, IBM DB2, Chroma

Cloud & Tools: GKE/Kubernetes, GCP (Pub/Sub, Cloud Composer, Dataflow), AWS (EC2, S3), Docker, Terraform, CI/CD (Azure DevOps, Flux, Jenkins), Git

Security & Identity: Auth0, OIDC/OAuth2, OpenFGA, RBAC, ReBAC, HMAC request signing, rate limiting, PCI-compliant data handling

AI & Data: LangChain, RAG, vector search, OpenAI API, prompt engineering, Claude Code agent skills, spec-driven development

Testing: SonarCloud, JUnit, Mockito, Jest, Vitest, pytest