Adrian Eduardo Sanchez Beltran

Backend Developer (Java, Spring Boot) — Python, SQL, Docker

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PROFESSIONAL SUMMARY

Computer Engineering student (coursework completes December 2026; degree finalized April 2027 upon completion of social service) focused on Java backend development. Built bank-api, a transactional REST API with Spring Boot and MySQL tested for concurrency on a real database, plus an SDN network emulation in Mininet and my own web and email infrastructure. Technical Degree in Software Programming (IPN) gives a strong Object-Oriented foundation. Practicing algorithms in Java on LeetCode (Grind 75). English C1.1. Seeking a Software Engineering Internship or Entry-Level Backend Developer role; open to remote, hybrid, or on-site.

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, C, C++, C#, SQL, Bash

Backend: Spring Boot, Spring Data JPA / Hibernate, REST APIs, Flyway, MySQL, Java Servlets, Object-Oriented Programming, Data Structures & Algorithms

Testing & Delivery: JUnit 5, Mockito, Testcontainers, Maven, Git, Docker / Docker Compose, GitHub Actions

Infrastructure & Networking: Linux, Cloudflare (DNS, Email Routing), GitHub Pages, SMTP (Brevo), SPF/DKIM/DMARC, TCP/IP, Mininet, SDN controllers, iperf

KEY PROJECTS

bank-api — Transactional Banking REST API 2026

Personal Project | github.com/iamabeltran/bank-api | Java 21, Spring Boot, MySQL, Docker, Flyway, Testcontainers

- REST API for accounts, deposits, idempotent transfers (Idempotency-Key header) and paginated movement history; exact money arithmetic with BigDecimal / DECIMAL(19,4).
- Atomic transfers with @Transactional and pessimistic row locks (SELECT ... FOR UPDATE) in ascending account-id order. Tests on real MySQL (Testcontainers): no deadlock across 100 crossed transfers on 16 threads; exactly one execution for 20 duplicate idempotent requests.
- Local k6 benchmark (MySQL in Docker, single run, 0% errors): 264 transfers/s with p95 67.7 ms across 10 accounts; 129 transfers/s with p95 110.6 ms under 2-account contention.
- Flyway migrations, composite indexes for history queries, RFC 7807 errors, OpenAPI docs and CI on GitHub Actions.

SDN Topology Emulation & Failure Testing 2025 – 2026

Capstone Project — UAM Azcapotzalco | Python, Mininet, SDN controller, iperf

- Emulated a 12-host SDN network in Mininet and compared three topologies under link-failure scenarios.
- Measured throughput (iperf), packet loss (pingall across 132 host pairs: 0% after the controller recomputed routes, 31% when isolating a switch in the mesh topology) and failure detection time (under 1 s, from controller logs).
- Found that the 10 Mbps access link was the bottleneck in throughput tests; defined next steps to measure recovery time with repeated runs.

Personal Website & Email Infrastructure 2025 – 2026

iamabeltran.com | GitHub Pages, Cloudflare, Brevo, DNS

- Hosted the site on GitHub Pages with manually managed DNS records (A/CNAME) on Cloudflare; verified ownership in Google Search Console. Cloudflare reports about 90–230 unique visitors per day.
- Built multi-alias email: inbound via Cloudflare Email Routing, outbound via Brevo SMTP, authenticated with SPF, DKIM and DMARC; fixed a failed verification email caused by a missing catch-all rule.

Algorithm Practice (LeetCode) 2026 – Present

leetcode.com/u/adrian_beltran | github.com/iamabeltran/leetcode-java-solutions | Java, Grind 75

- Solving the Grind 75 list in Java (arrays, hash maps, two pointers, linked lists, backtracking); 30+ problems solved, with timed practice sessions ahead of online assessments.

EDUCATION

B.S. in Computer Engineering 2020 – Apr 2027 (expected)

Universidad Autónoma Metropolitana (UAM Azcapotzalco) — Mexico City, Mexico

- Coursework completes December 2026; degree finalized April 2027 after social service. Focus: Computer Networks, Systems, Data Structures. GPA: 8.06/10.0.

Technical Degree in Software Programming 2017 – 2020

CECyT 9 "Juan de Dios Bátiz" — Instituto Politécnico Nacional (IPN) — Mexico City, Mexico

- Early specialization in Object-Oriented Programming, logical system design, and relational databases.

LANGUAGES

- English: C1.1 — goFluent (Advanced)