Johann Daniel Trejo Flores

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Education

Instituto Politécnico Nacional – Escuela Superior de Cómputo (ESCOM)　　　　　Mexico City, Mexico
B.S. in Computer Systems Engineering　　　　　Expected Graduation: December 2026
GPA: 91/100

- Participant in the International Collegiate Programming Contest (ICPC), ranking within ESCOM's top 10 teams.

Centro de Estudios Científicos y Tecnológicos No. 1 "Gonzalo Vázquez Vela"　　　　　Mexico City, Mexico
Digital Systems Technician　　　　　2022
GPA: 91/100

Projects

Ollin - Seismic Monitoring System　　　　　September - December 2025
Technologies: Android, Kotlin, Jetpack Compose, Spring Boot, PostgreSQL, Redis, Docker, Firebase, Google Maps API
Key Responsabilities

- Developed native Android application using Kotlin and Jetpack Compose for real-time earthquake visualization and monitoring in Mexico.
- Designed and implemented RESTful backend API with Spring Boot for earthquake data management, including dynamic filtering, pagination, and geospatial queries.
- Integrated Google Maps API and Firebase Cloud Messaging for interactive seismic data visualization and alert notification system with custom markers and clustering by magnitude.
- Built containerized microservices architecture using Docker with PostgreSQL for persistent storage and Redis for caching layer optimization.

Particle Swarm Optimization Algorithm - Social Service　　　　　February - July 2025
Technologies: Python, Matplotlib
Key Responsabilities

- Implemented a complete PSO algorithm from scratch using optimization heuristics and modular design patterns.
- Generated numerical analysis outputs and dynamic plots to evaluate algorithm convergence.
- Developed a simulation tool as part of social service requirements.

Certifications

Google Cloud Computing Foundations　　　　　Mexico City, Mexico
Certificate　　　　　September 2025
Credly ID: Digital Badge

- Completed foundational training in Google Cloud Infrastructure.

CELEX – IPN　　　　　Ciudad de México, México
English – Level B2　　　　　2020–2023

Skills & Interests

Technical: Python (1.5 year), C++ (1 year), Java (1 year), Spring Boot (1 year), PostgreSQL (1.5 year), MySQL (1.5 year), Docker, Git, Linux Debian Environment, Google Cloud (Foundations), Azure (Foundations)

Languages: Spanish (Native), English (B2)

Core Concepts: Data Structures, Algorithms, OOP, System Design, REST APIs and Security.

Interests: Backend development, distributed systems, algorithms, testing