

Johel Andreé Vargas Villanueva

Backend, frontend & AI developer · Chemical Engineering (UNT) · Systems Engineering & AI (UPAO)

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SUMMARY

Student pursuing two engineering degrees at once and self-taught developer. I build web products, APIs, automations and applied AI solutions with Python, TypeScript and Go, combining chemical engineering's process thinking with software development.

EDUCATION

Chemical Engineering

2024 – 2028 (expected)

Universidad Nacional de Trujillo · Trujillo, Peru · Semester 6 of 10

Systems Engineering & Artificial Intelligence

2024 – 2028 (expected)

Universidad Privada Antenor Orrego · Trujillo, Peru · Semester 6 of 10

PROJECTS

Quikko — Short links with real-time metrics.

2026

- Built a Go REST API (Echo, Clean Architecture) with Redis redirect caching and JWT authentication.
- Implemented real-time analytics with InfluxDB, GeoIP and WebSockets, shown in a Next.js dashboard.

Go, Echo, Next.js, TypeScript, MongoDB, Redis · github.com/andr2116d/Quikko

UNITRU Academic — University portal data, made clear.

2026

- Automated data extraction from UNT's university portal with Playwright and FastAPI, solving the captcha with local OCR (Tesseract).
- Built a grade predictor and a schedule optimizer in Next.js; credentials are never stored.

Python, FastAPI, Playwright, Tesseract, Next.js, React · github.com/andr2116d/UNITRU-ACADEMIC

Gemelo Socioeconómico LL — La Libertad as a network of 83 districts.

2026

- Modeled La Libertad's 83 districts as a graph and learned district embeddings with GraphSAGE (PyTorch Geometric).
- Compared Louvain and GraphSAGE + KMeans communities on a Leaflet map with a FastAPI-backed scenario simulator.

Python, PyTorch Geometric, GraphSAGE, FastAPI, Next.js, TypeScript · github.com/andr2116d/gemelo-socioeconomico-II

Deconsta — Delegated payments, without losing control.

Team · 2026

- Developed, in a three-person team, a delegated-payments platform with roles, approval rules and an auditable history; authored most commits.
- Three-layer document analysis (file inspection, PaddleOCR and structured review with Claude) on FastAPI, Celery and Redis.

Vue 3, TypeScript, Pinia, Tailwind CSS, FastAPI, PostgreSQL · github.com/andr2116d/Deconsta

Serverless Image Processor — An AWS image pipeline, described as code.

Team · 2026

- Owned the bootstrap (remote state, OIDC), GitHub Actions pipeline, networking and QA/production environments of a serverless processor (API Gateway, Lambda, S3, SQS) in a five-person team.

AWS Lambda, API Gateway, S3, SQS, CloudWatch, Terraform · github.com/andr2116d/ias-aws-lambda

La Previa — Football pitch bookings, made simple.

Team · 2026

- Approved the team's pull requests and authored most commits of a booking system with administrator, reception and player roles.

Next.js, TypeScript, Tailwind CSS, TanStack Query, NestJS, Prisma · github.com/andr2116d/canchas-reservas

TECHNICAL SKILLS

Programming: Python, TypeScript, JavaScript, Go, Java, SQL

Backend: FastAPI, Node.js, NestJS, Echo, Spring Boot, Celery, REST, WebSocket

Frontend: Next.js, React, Vue 3, Tailwind CSS, Astro

Data & AI: PyTorch (PyTorch Geometric), scikit-learn, pandas, PaddleOCR, PostgreSQL, MongoDB, Redis, InfluxDB

Cloud & DevOps: AWS (Lambda, API Gateway, S3, SQS), Terraform, Docker, GitHub Actions, Vercel, Railway, Cloudflare, Git, Linux, Playwright

Languages: Spanish (native), English (intermediate)

Interests: Music (I play the saxophone)