

ALBERTO GUINDA SEVILLA

AI Engineer · Full-Stack Developer · Claude Code · LLM Agents · Computer Vision

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Available for freelance projects



AI AGENTS

CLAUDE CODE / LLM

COMPUTER VISION

DIGITAL TWIN

PROFESSIONAL PROFILE

AI Engineer and Full-Stack developer able to take a complete product from architecture to production autonomously. I embed AI agents (LLMs, Claude Code) into the development cycle to accelerate delivery and raise code quality, and I deploy AI models in production-critical environments (computer vision with YOLOv8). I also specialise in an uncommon technical niche: digital twins (Digital Twin) over BIM and GIS, real-time industrial IoT sensing and computer vision. Experience building and operating platforms that monitor critical infrastructure, with a focus on robustness, CI/CD and data security. **Stack:** Python/FastAPI, TypeScript, Svelte, React/React Native, Three.js, CesiumJS, MQTT, Docker.

PROFESSIONAL EXPERIENCE

Full-Stack AI Engineer · Digital Twin & Computer Vision — OFITECO (VINCI Group)

Feb 2026 – Present

Zaragoza · Critical-infrastructure monitoring with computer vision (rail sector)

- Sole design and development of **xdata-bim**, a complete Digital Twin platform: web BIM viewer (Svelte 5, Three.js, @thatopen), 8 real-time IoT sensor types over WebSocket, analytical dashboards (Z-score, Bollinger, Pearson), IDW heatmaps and BCF 2.1 round-trip.
- xdata-camera-service**: critical-infrastructure monitoring with computer vision on CPU (rail sector). YOLOv8n (ONNX) + zero-shot CLIP + SSIM pipeline (~700 ms/photo) across 50 autonomous solar-powered 4G cameras; multi-level alerts, ray-casting exclusion zones and GPS cross-trigger with a hydrological sensor. Python/FastAPI, Svelte 5, Docker, MQTT.
- Pulso**: rebuild and completion of a structural health monitoring (SHM) platform deployed on-premise in production. Operational modal analysis (OMA) on vibrations, 4-layer Clean Architecture, ~480 automated tests (≥80% coverage + E2E + WCAG AA), full security (httpOnly+CSRF auth, RBAC, audit log, rate limiting) and unsupervised clustering (HDBSCAN). Svelte 5, FastAPI, NumPy/SciPy.
- AI agent orchestration (Claude Code)** across the development cycle: superprompts and phased execution plans, verifiable quality gates and prompt engineering applied to analysing and evolving existing codebases.
- BIM-Terrain alignment engine** with CesiumJS and Google 3D Tiles: N-point GPS registration (Helmert/Procrustes via SVD), per-frame ENU-ECEF sync and integration of 10 base layers (IGN PNOA, WMS/WMTS).

Full-Stack Developer · IoT — Instituto Tecnológico de Aragón (ITA)

Oct 2024 – Jun 2025

Zaragoza · R&D in smart agriculture and industrial digital twins · Verifiable letter of recommendation

- Agricultural IoT system with computer vision (EfficientNet-B0) and web dashboard (React, Node.js, InfluxDB, MQTT, CoAP).
- Digital twin with Blender + Babylon.js, including sensor integration in a VR environment (Oculus).
- Interactive BIM viewer (Three.js, TypeScript) with IFC model loading and sensor simulation.

Systems Analyst Technician — UB Manufacturing S.L.

Sep 2025 – Nov 2025

Zaragoza · Modernisation of industrial technology infrastructure

- CV Finder**: semantic candidate-search tool with local AI (Next.js 15, Transformers.js, vector embeddings).
- Incident management and proposals for systems automation and modernisation.

Web Developer — Agencia Digital SP

Apr 2024 – Jun 2024

- WordPress child-theme development and chatbot integration via the OpenAI API (GPT-3.5).

Web Developer (internship) — Pikolín (Pikolin Group)

Apr 2023 – Sep 2023

Verifiable letter of recommendation from the CIO

- Sales-forecasting system with a SARIMAX model; 40% reduction in results query time. Team of 30+ people.

TECHNICAL SKILLS

AI / LLM / Agents	LLM, Claude Code, AI Agents, Prompt Engineering, Generative AI, MCP, subagent orchestration, OpenAI API, Anthropic API
ML / Computer Vision	YOLOv8 (ONNX), CLIP, EfficientNet, Transformers.js, vector embeddings, SARIMAX
Backend	Python (FastAPI, Django), Node.js, Express, Go, REST APIs, WebSocket, JWT, microservices, event-driven architecture
Frontend / 3D	React, Svelte 5, TypeScript, Next.js, React Native, Three.js, Babylon.js, ECharts, Tailwind CSS, Vite
BIM / GIS / Digital Twin	IFC (web-ifc WASM), @thatopen, BCF 2.1, CesiumJS, Google 3D Tiles, Helmert/SVD, WMS/WMTS
IoT	MQTT, CoAP, ESP32, InfluxDB, industrial sensing, 4G/LTE protocols
DevOps / QA	Docker, GitHub Actions, CI/CD, Playwright, Vitest, pytest, Lighthouse CI, Sentry
Databases	PostgreSQL, MariaDB, Supabase, MongoDB, InfluxDB, ChromaDB, SQLite

KEY PROJECTS

DevFlow AI · Capstone of the AI Software Development program · [devflowai.dev](#) — Open-source suite of 20 developer tools with built-in AI (4 providers). Next.js 16, React 19, strict TypeScript, PWA, 8 languages, WCAG AAA and Lighthouse 100/100/100/100. CI/CD with security analysis (CodeQL, Semgrep, SBOM).

Cherry TV · Android app (React Native) — On-device ML recommendation engine (10 factors), sub-50 ms fuzzy search (trigrams + Levenshtein) and native Kotlin modules. Clean Architecture, 79 locales, WCAG AAA.

EDUCATION

- **Expert in AI Software Development** — BIG School / Univ. Internacional Isabel I de Castilla, 2026. Own-degree title, 150 h (6 ECTS). Capstone: DevFlow AI.
- **Master's in Digital Transformation & IoT** — Instituto Tecnológico de Aragón (ITA), 2024–2025. 600 h. GPA 8.8/10. Thesis: PlantsCare (IoT + agri-AI).
- **Higher Diploma in Web Application Development (DAW)** — Academia Marco, Zaragoza, 2022–2024. 2000 h.
- **Intermediate Diploma in Microcomputer Systems & Networks (SMR)** — Cefor Izquierdo, Zaragoza, 2020–2022. 2000 h.
- **Front-End Web Development Certificate** — INAEM (by Océano), 300 h, Nov 2025 – Feb 2026. HTML/CSS, JavaScript, SPA frameworks, mobile.

CERTIFICATIONS & ADDITIONAL INFORMATION

- **Anthropic Academy:** 12 certifications (Claude Code, MCP intro & advanced, Agent Skills, Subagents, Cowork, AI Fluency).
- **Google Cloud:** AI Essentials; Get Certified Program in progress.
- **Languages:** Spanish (native), English (B1 — fluent technical reading & documentation).
- Two verifiable letters of recommendation (ITA and Pikolín). Driving licence (B). Availability: Zaragoza, Madrid, Barcelona and remote.
- **Portfolio:** [albertoguinda.com](#) · **GitHub:** [github.com/albertoguinda](#)