Albert Cabezuelo Arévalo

PORTFOLIO **www.albertcabezuelo.es**

Software & Telecommunications Engineer

Full-stack product · React · Node.js · Firebase · Payments · iOS/Android · Networks & communications

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Available from February 2027 · 20–30 h/week · open to an in-company Telecommunications thesis

SUMMARY

Software and telecommunications engineer in the final year of a double degree (UAB). Co-founder & CTO of INNER: I ship the whole product — multi-role web platform, serverless backend, payments, mobile apps and Garmin apps. Ironman 70.3 finisher; qualified for the European Open Water Championships (5 km) with Spain's national team.

EXPERIENCE

Co-founder & CTO — INNER (FANTÉ Foods), Barcelona — Jul 2025 – Present

Sports-tech platform for endurance athletes with 1,200+ registered users · innerfuelplan.com

- Designed and launched the platform end to end: multi-role React 19 web app, Firebase backend (52 Cloud Functions) and apps on the App Store and Google Play (Oct 2026), through 3 App Review rounds.
- Built the shop with the server as the single authority: idempotent Redsys payments (3DES + HMAC-SHA256, lease lock and 8 checkpointed steps), Sendcloud shipping, stock and points.
- Developed the engine that turns domain rules into deterministic plans (~180 regression tests) and the race-data pipeline in Python (Cloud Functions gen2 and Cloud Scheduler) behind the race finder.
- Shipped 2 Garmin Connect IQ apps in Monkey C — a Data Field (v1.0.7) for 109 watches and a watch app for 117 — and redesigned their sync contract: payload from 103 to 3.4 KB (-97%).
- Grew the test suite from 6 to 316 files (~4,300 cases) with CI on GitHub Actions, including 214 Firestore rules tests on the emulator; cut the mobile bundle by 81% and migrated the backend region with zero downtime.

Freelance Full-Stack Engineer — AstroLanding (own studio), Barcelona — Jul 2025 – Present

- Design, development, deployment and maintenance of 4 production websites for local businesses (Next.js/React).
- **Dulce Flor** (in production): ordering platform with a live-priced configurator, in-store kiosk and admin panel; offline-first idempotent sync with Supabase (RLS), PBKDF2 and ~345 tests.
- **Astro Agent** (pilot): WhatsApp booking agent where an LLM (Claude API) only uses deterministic, zod-validated tools; PostgreSQL EXCLUDE constraint against double bookings and ~500 tests.

Bank Teller (summer) — Banco Sabadell · Customer service and cash operations — Jun–Aug 2024 · Jun–Aug 2025

PROJECTS

Athlone — EMG wearable: electronics, signals and BLE (co-founded prototype) — 2026

- ESP32 firmware (C++) at 500 Hz, custom BLE protocol (CRC16-CCITT frames, control channel) and an offline Flutter app (Riverpod, Drift/SQLite) for activation, fatigue and balance; validated on hardware; 56 tests.

Bachelor's thesis — secure Wear OS integration for INNER (in progress) — 2026 – 2027

- Wear OS client in Kotlin and Compose (Health Services): offline logging with idempotent sync to Firebase Functions, account linking, a threat model and a reliability and battery evaluation.

EDUCATION

Double Bachelor's Degree in Computer Engineering (IT specialisation) and Telecommunication Systems Engineering — Universitat Autònoma de Barcelona — 2022 – 2027 (expected)

Telecommunications: digital communications (QPSK, Viterbi), radio and antennas (Altair FEKO), RF (Keysight ADS), IP networking (IPv6, IPsec, multicast, VPN/NAT) and optical communications.
Computer engineering: distributed systems on AWS, computer architecture, web technologies and software design.

TECHNICAL SKILLS

Web & backend: JavaScript, TypeScript, React, Next.js, Node.js, NestJS, Python (FastAPI), REST APIs, webhooks
Cloud & data: Firebase (Functions, Firestore, Auth), GCP, PostgreSQL, Supabase, Prisma, AWS, Vercel, Docker
Telecommunications: signals and systems, digital communications, antennas, RF, IP networking, MATLAB/Simulink
Mobile & devices: React Native, Flutter, Android, iOS, Garmin Connect IQ, Wear OS, BLE, ESP32, C/C++
Quality & DevOps: Vitest, Jest, Playwright, GitHub Actions (CI/CD), Firebase Emulator, Sentry
Security & AI: OAuth 2.0, RLS, CSP, GDPR, Stripe, Claude API (tool use), MCP, Claude Code

CERTIFICATIONS

Audinate: Dante Level 1, audio over IP (2026) · Anthropic: Claude Code in Action and Claude Code 101 (2026)

LANGUAGES

Spanish · Catalan · English