Rubén Higuera

Software & Generative AI Engineer

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PROFILE

Software engineer with 4+ years of professional experience: real-time railway control, airline payment platforms and satellite data processing. Specialized in software development and the integration of generative AI systems into enterprise environments.

PROFESSIONAL EXPERIENCE

R&D Software Engineer
Aug 2024 — Present

Siemens Mobility · Promoted after 8 months as an intern

- Core development of **Rail9000**, the modular platform for real-time railway control centres. Implementation of the **Eulynx** protocol in Java: transport layer (TCP, TLS, UDP) and SCI-CC application layer for interlockings.
- Leadership of the department's generative AI initiatives; internal tools adopted by the Development, Testing and Safety teams (**150+ users, 40 daily active**).
- **Conversational RAG Assistant**: complete web application built from scratch — backend on the Copilot SDK with SSE streaming, custom frontend (Vercel AI SDK), Entra ID authentication and an admin panel with KPIs.
- **AI Incident Matcher** (duplicate-incident detection with hybrid search and a tool-equipped agent) and **R&D Plugin Marketplace** (internal AI plugin ecosystem).
- Internal training on GitHub Copilot for the department.

Software Engineer
Sep 2021 — Dec 2022

Accelya Group

- Full-stack development of **Vivaldi**, the web platform for airline ticketing and payment management.
- Optimisation of SQL queries on Informix in critical payment flows; maintenance of automated Jenkins pipelines, reducing the regression rate.

Software Engineer (Internship)
Feb 2021 — Aug 2021

GMV · GSSC project for the European Space Agency

- Multi-satellite data ingestion platform: containerisation with Docker, orchestration on Kubernetes, data processing in Python and ingestion pipelines in Elasticsearch.

PROJECTS

RoboCar — autonomous robot built from scratch (BSc & MSc thesis)
3D-printed chassis and body, custom control electronics and the full navigation stack: sensor fusion (LiDAR, IMU, ultrasonics) and computer vision with OpenCV for lane detection and steering-angle computation. C++, Python, ROS. Documentation: rubenhigorg.github.io/robocar

EDUCATION

Master's Degree in Artificial Intelligence
2025 — Aug 2026 (in progress)

Universidad Internacional de La Rioja (UNIR)

Double Degree in Computer Engineering and Information Society Technologies
2018 — 2023

ETSISI · Universidad Politécnica de Madrid

SKILLS & LANGUAGES

Languages: Java, Python, C/C++, SQL, TypeScript
Generative AI: RAG, multi-agent systems, Copilot / Claude / OpenAI SDKs, Vercel AI SDK
Platform: Docker, Kubernetes, CI/CD (Jenkins), Elasticsearch, microservices, Entra ID
Spoken languages: Spanish (native) · English (B2 Cambridge; daily working language)