

# Rodrigo Cortés Sánchez

AI Systems Engineer

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[rctss.github.io](https://rctss.github.io) (portfolio)

## SUMMARY

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AI Systems Engineer specializing in multi-agent systems for reliable production environments. Experienced in designing and orchestrating distributed systems across cloud, edge, and embedded contexts, with a focus on system evaluation, interoperability, and real-world constraints. Background includes LLM-based agentic systems, microservices, and real-time embedded software.

## EDUCATION

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### Universitat Pompeu Fabra (UPF)

Sep 2025 – Jul 2026

*Master of Science in Intelligent Interactive Systems*

*Barcelona, Spain*

- **Thesis:** Multi-Agent Personal Health Assistant (Under Supervision of EU Joint Research Centre)
- **Relevant Coursework:** Machine Learning (ML), Natural Language Processing (NLP), Mobile Robotics, Probabilistic Graphical Models, Autonomous Systems, Web Intelligence, Data-driven Social Analytics

### MIT Professional Education

Nov 2024 – Apr 2025

*Professional Certificate in Applied Data Science*

*Online*

### Universidad Anáhuac Norte

Aug 2015 – May 2020

*Bachelor of Engineering in Mechatronics Engineering*

*Mexico City, México*

## EXPERIENCE

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### Circontrol

Jun 2023 – Present

*Software Engineer*

- Designed and implemented distributed microservices enabling real-time coordination of energy systems using Go and Docker
- Integrated heterogeneous communication protocols (MQTT, Modbus, REST, gRPC) to achieve device-agnostic control and monitoring
- Improved system reliability and fault tolerance for continuous grid operation through robust service design

### BSV Electronic

Jul 2022 – Jun 2023

*R&D Embedded Software Engineer*

- Engineered C/C++ firmware for STM32 and ESP32 platforms with deterministic real-time behavior
- Optimized system architecture for energy efficiency and reduced hardware cost
- Integrated sensor networks and control loops for autonomous industrial systems

### Altair Engineering

Nov 2020 – Feb 2022

*Software Development Engineer (C++)*

- Optimized performance-critical components in C++ core libraries
- Improved software reliability through structured testing and integration practices

### Traxión Logistics

Apr 2020 – Nov 2020

*Junior Network and Transportation Engineer*

- Designed ETL pipelines and business intelligence dashboards for logistics operations
- Implemented route optimization algorithms to reduce transportation cost and delivery time

## PROJECTS

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**AI-Powered Personal Health Assistant** | *Multi-agent systems, LLMs, evaluation* Dec 2025 – Present

- Designed a multi-agent architecture with specialized agents for data analysis, domain reasoning, and user interaction
- Integrated heterogeneous data sources including wearables and structured health records
- Developed evaluation methods to assess reliability and reasoning consistency of agentic systems
- Implemented prototype using general-purpose large language models

**LLM-Based CV Processor System** | *Python, LangChain, document extraction* Nov 2023 – Sep 2024

- Implemented multi-step LLM orchestration using LangChain
- Designed pipelines for document parsing, semantic extraction, and structured output generation
- Automated PDF-to-DOCX document workflows

## TECHNICAL SKILLS

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**AI & Agentic Systems:** Multi-Agent Systems, LLM Orchestration, System Evaluation, Monitoring and Traceability

**Distributed & Edge Systems:** Distributed Systems, Microservices, Edge Computing, IoT, Real-Time Systems

**Programming Languages:** Python, Go, C, C++

**Tools & Frameworks:** LangChain, CrewAI, PyTorch, scikit-learn, FastAPI, Docker, Linux

**Certificates:** Applied Data Science (MIT Professional Education), IELTS Academic English Certificate (C1) (ETS)

**Languages:** Spanish (Native), English (C1), German (A2), French (A2)