



ANTONIO SALDAÑA

R&D Computer Engineer | Bachelor's Degree
in Computer Engineering

ABOUT ME

I am a Computer Engineering graduate with hands-on experience in multidisciplinary projects across both research and industrial environments.

My background includes the development of web-based tools and data-driven systems, with a growing focus on applied Artificial Intelligence, including LLM-based solutions and Retrieval-Augmented Generation systems.

I value collaborating in multidisciplinary teams and adapting quickly to new technologies, with a practical and impact-driven approach.

CONTACT



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EXPERIENCE



R&D Computer Engineer

Nov. 2024 - Present

University of Oviedo – Research Group on Engineering Projects and Sustainability

- Development of Python-based web tools for the integration of Retrieval-Augmented Generation (RAG) and Large Language Models (LLMs) into industrial sustainability projects, with a focus on practical applications and insight-driven solutions.



Computer Engineering Research Intern

Oct. 2023 - Jul. 2024

University of Oviedo – Research Group on Engineering Projects and Sustainability

- Participated in the design and implementation of sustainability-oriented solutions through an industry-academic collaboration. The work focused on data modelling, ML-based digital twins, and web systems for carbon footprint management. Supported industrial partners like Idesa and Gonvarri in building web-based tools for data-informed decision-making.

EDUCATION

Master's Degree in Computer Engineering

Polytechnic School of Engineering, University of Oviedo (Gijón)

Sep. 2024 – Present

Bachelor's Degree in Computer Engineering – Information Technologies (Bilingual Program)

Polytechnic School of Engineering, University of Oviedo (Gijón)

2019 – 2024

Graduated with Honors in the Final Degree Project (TFG)

ERASMUS+ Exchange Program

Luleå University of Technology, Sweden

Jan. 2022 – Dec. 2022

LANGUAGES

Spanish (Native) | **English** (B2) | **French** (Basic)

PROJECTS

HIPERAUTOMATIZACION (Oct. 2025 – Present)

Development of an agentic AI system for querying industrial SCADA data using natural language, with temporal reasoning and tool-based execution over industrial data.

SMARTBIDRIGGING (April 2025 – Present)

Development of a system for detecting collusion in procurement processes, using Retrieval-Augmented Generation (RAG) and Graph Neural Networks (GNNs) as the technological foundation.

HINCADO – Gonvarri Solar Steel (2024)

Created a dedicated data model and visual user interface to improve pile-driving depth optimization for large-scale solar farm installations, using LISP and R. [Project ID: FUO-23-377]

METALCHAIN – Idesa (2023–2024)

Developed a web system based on Verifiable Credentials to optimize and ensure traceability in the carbon footprint calculation process for heavy boiler equipment. [Project ID: SV-PA-22-RIS3-4]

FARM 4 FUTURE – Gonvarri Industries (2023)

Designed and optimized digital twins using LSTM-based machine learning models to support predictive decision-making in industrial sustainability scenarios. [Project ID: SV-PA-22-RIS3-1]

TECHNICAL CERTIFICATIONS & PRESENTATIONS

Top 100 IMPACT CREATORS 2025

Recognized as one of the 100 most impactful contributors to innovation and sustainability projects within the U4Impact community.

Certificate in Communication for Technical Projects – Draft Estimation with Drones and Deep Learning

AEIPRO (Spanish Association of Project Engineering) – July 2025

Certificate in Communication for Technical Projects – Identification of Spills in Rivers using Hyperspectral Imaging and Deep Learning

AEIPRO (Spanish Association of Project Engineering) – July 2025

Certificate in Communication for Technical Projects – METALCHAIN Web Application

AEIPRO (Spanish Association of Project Engineering) – July 2024

DeepLearn 2022 – 7th International School on Deep Learning

IRDTA, October 2022

LANGUAGE CERTIFICATIONS

European Diploma Supplement in English (SET)

University of Oviedo – 2024

First Certificate in English (B2)

Cambridge University – Credential ID: 176ES0720286

PUBLICATIONS

A Dual-Mode Retrieval-Augmented Generation System for Interactive Question Answering of Public Tender Documents

International Conference on Project Management (ProjMAN 2025) – Abu Dhabi

- Designed a chatbot using a dual-mode RAG approach to answer questions over public tender documents. Combined semantic and lexical search to generate accurate, verifiable responses, supporting non-technical users in procurement evaluation.

Identification of Spills in Rivers using Hyperspectral Imaging and Deep Learning

International Congress on Project Management and Engineering (CIDIP), AEIPRO, 2025

- Designed a system to identify pollutant spills in rivers by combining hyperspectral imaging with deep learning, enabling precise and automated environmental monitoring

Draft Estimation with Drones and Deep Learning – An Alternative to Traditional Bathymetry

International Congress on Project Management and Engineering (CIDIP), AEIPRO, 2025

- Developed a drone-based system using deep learning to estimate river draft as an alternative to traditional bathymetric methods

Accreditation of the Carbon Footprint of Heavy Boiler Equipment Using Verifiable Credentials

International Congress on Project Management and Engineering (CIDIP), AEIPRO, 2024

- Developed a web system dedicated to carbon footprint certification of industrial equipment using Verifiable Credentials, improving traceability and data integrity across the supply chain.
[DOI: [10.61547/2405012](https://doi.org/10.61547/2405012)]

Point Cloud Mapping with Drones Using Ultrasonic Sensors

Luleå University of Technology, Sweden, June 2022

- Explored the use of ultrasonic sensors mounted on drones to generate 3D point clouds, with potential applications in navigation and spatial analysis, using Python and TypeScript. [ISBN: 978-91-8048-114-4]

SKILLS & TOOLS

Languages: Python, Javascript, C#, Java, HTML, CSS, PHP

AI & Data: LLMs, RAG, AI Agents, Scikit-learn, TensorFlow

Web: REST APIs, SOAP, Django

Tools: Git, Docker, SQLite, VSCode, SQLite, ER & Database Design

Frameworks & Libraries: .NET, Verifiable Credentials

Soft Skills: Adaptability, communication, multidisciplinary