

Fran Cortés

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Experience

AI Researcher Engineer Visitor

IBM

Dublin, Ireland

05/2025 – 08/2025

- Contributed to academic research and the development of a **red teaming** system targeting **LLMs**, focusing on identifying vulnerabilities and evaluating model robustness.

AI | Cybersecurity Researcher

[Universidad de Murcia](#)

Murcia, Spain

10/2024 - Current

- AI Researcher Engineer focused on **Federated Learning** and **Cybersecurity** applied to IoT, leveraging **Large Language Models** and advanced **AI** techniques for vulnerability identification and **penetration testing**.
- Contributed to **academic research** and the development of secure, privacy-preserving machine learning systems in collaboration with interdisciplinary teams, under the supervision of Prof. Antonio Skármeta and Prof. José Luis Hernández Ramos.

Specialist Software Engineer

Vodafone

Málaga, Spain

09/2023 – 10/2024

- Developed microservices using **Java Spring Boot**, **MongoDB**, **Apache Kafka** and **Docker**, while adhering to **agile** methodologies and industry best practices while deploying new features into production.
- Led the technical **hiring** process for new graduate engineers, including designing technical scenarios and interview questions.
- Mentored** our internship engineers to create a final project, simplify the DB budget management process across portfolios using power app while building a **chatbot** as an extension.
- Proposed and designed using **figma** a frontend application to track our service orders and help to clarify our demos.

Deep Learning Engineer Lead

[Bemyvega](#)

Murcia, Spain

12/2022 - 05/2023

- Led the **AI** team in developing **real-time transcription** systems using **NLP** and **deep learning** techniques, including **LLMs**. Analyzed and selected appropriate models for each use case, resulting in high-quality transcriptions.

AI Software Engineer | CEO CO-Founder

[MiSintaxis](#)

Murcia, Spain

09/2019 - 09/2023

- Led the creation, design, **development** and **strategy** of the **number one app** in the world of syntax teaching, with more than **85,000 downloads** all around the world
- Applied **Natural Language Processing** techniques for Spanish language processing. Conducted **fine-tuning** of the Bloom and GPT2 model on the Ancora corpus, resulting in impressive F1 metrics for Spanish **constituency parsing**. Using **Hugging Face**, **PyTorch**, **Python** and **AWS** to deploy it. Design and implement an architecture based on **AWS** services.
- Designed and implemented scalable **APIs** and background workers to develop this mobile app.
- Used android studio with **Java** and **XML** at first and then led the migration to flutter in order to create a multiplatform app.
- Recruited** 1 designer, 3 software engineers.
- Used the **lean** methodology to create a minimum viable product and implemented the **agile** methodology with SCRUM using Jira.
- Managed the business side, including legal issues, branding, recruiting, fundraising, external communications and networking.

Projects

- Movie Recommendation System**: Created with my colleague a hybrid system using **content-based**, **collaborative-based** and **Knowledge-based filtering** using **Java** ([Github Link](#)) (2/2022)
- TURBINE**: Before going to college, I created a 3D mobile video game for **Android** using **Unity 3D** with **C#** and **Blender**. The game was available in the play store for free. Link to [YouTube](#) Gameplay (07/2018)
- ANALIZANDO**: Created a syntax teaching app in high school at the age of 15 in order to help students prepare for exams. Used **Android Studio** and developed it with **Java** and **XML**. The app was available in the Play Store, and it had more than 30,000 downloads (09/2016)

Education

Bachelor of Computer Engineering with Honors

[Universidad de Murcia](#)

Murcia, Spain

09/2019 - 07/2023

- Major in Computer Engineering. GPA of 8.6, this is in the top 1% of the university.

Erasmus-Computer Engineering

[Politechnika Wroclawska](#)

Wroclaw, Poland

09/2021 - 02/2022

- Major in Computer Engineering. Studied abroad in Poland for one semester. All classes were in English.

Research

- Cortés-Delgado, F. J.**, Mármol Campos, E., Hernández-Ramos, J. L., Skarmeta, A., Latif, S., Djenouri, D., Krenn, S., Puiu, A., & Vizitiu, A. (2025). *Enhancing security and privacy in federated learning for distributed systems: The REMINDER approach*. In *Proceedings of the Global IoT and Edge Computing Summit (GIECS 2025)*. Springer. **Accepted, forthcoming**.

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Skills

- Natural Language Processing | Deep Learning | Hugging Face | PyTorch | Python
- Java Spring Boot | Docker | JavaScript | HTML | CSS | C++ | C | MongoDB | MySQL | AWS | Git | SCRUM | Unit Testing | Cucumber | BDD
- Management | Microservices | Artificial Intelligence | Full-Stack
- English, Spanish, French – *All professional proficiency or above*

Awards

- **Extraordinary Final Degree Project Award:** Receive recognition for my final project. Applied [Natural Language Processing](#) techniques for Spanish language processing. Conducted [fine-tuning](#) of different [LLMs](#). Design and implement an architecture based on [AWS](#) services.
- **Extraordinary High School Award:** Received a recognition for passing every subject of my final year of [high school with Honors](#)
- **First place in** multiple [startup competitions](#) and [regional contests](#) with my startup, [MiSintaxis](#).
- **Awarded scholarships** to take courses in [business administration](#) and [management](#).

Others

- [Volunteered](#) as a mentor for international students in my city.
- Performed Tech [Talks](#) in different universities and in different high schools.