




# Rubén Pérez

Software Engineer | Data Scientist

I am a software engineer who graduated from the University of Cádiz (Spain) with a strong background in areas like Data Structures, Algorithms, Complexity Analysis, AI and Pattern Recognition. I enjoy learning different technologies and languages and using them in my projects.

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## EXPERIENCE

### Full-stack developer

August 2022- July 2023

University of Cádiz

- Designed and developed a community-based learning app for the students of the Databases course in collaboration with the Software Process Improvement & Formal Methods research group (SPI&FM, TIC-195).
- Implemented an API REST in Django (Python) and a PWA in NextJS.
- This project was funded in the call of Teaching Innovation of the University of Cádiz 2022/23.
- With this project, I also received the Departmental Collaboration Scholarship from the Spanish Ministry of Education in the call of 2022/23.

### Full-stack developer

October 2021 - July 2022

University of Cádiz

- Enhanced and maintained a Laravel (PHP) web application to learn SQL, previously created by the SPI&FM research group. It used a NodeJS API connected to an IBM Watson Assistant instance.
- Refactored the methods that checked the queries to add support for nested and join queries.
- Created a new game mode (*Playground Mode*) to perform SQL queries freely.
- Changed the lecturer dashboard, and implemented the data export feature.
- Deployed the web application on an Ubuntu server.
- In the first year, more than 70 people used the platform, and we fetched data from over 2400 attempts (+9400 queries).
- This project was funded in the call of Teaching Innovation of the University of Cádiz 2021/22.

## EDUCATION

### Bachelor's Degree in Computer Engineering

September 2019 - July 2023

University of Cádiz

- CGPA: 8.83 out of 10 (Spanish grading system).
- Achieved 6 Honorific Mentions (some of them in core subjects like Algebra, Databases or Computer Networks).
- Took the bilingual itinerary.
- Passed every single exam on the first attempt.
- Learnt several languages like C, C++, Java, Python and MATLAB.
- I was a Student Assistant in the Computer Science Department since 2021.
- Led a group of incoming students in the Welcome Days of the 2021/22 academic year.

## SKILLS

### Languages

- Spanish (Native)
- English (B2 FCE)
- French (Elementary)

### Software

- Microsoft Office
- Git & GitHub
- MATLAB

### Skills

- Fast Learner
- Team player
- Creative

### Certificates

- Cisco CCNA1
- Machine Learning with Python
- MongoDB Associate Developer

# PROJECTS

## Search Engine

Search engine with efficient indexing and searching techniques in Java. Algorithms for tokenization and ranking to enhance search performance were used.

## C to Assembly Translator

C translator to assembly (x86) using the SLY module in Python along with a nice and interactive GUI for the user. I designed and created the grammar for accepting a subset of C.

## Sudoku Player

Sudoku player with image and audio recognition in MATLAB. Sudokus were scanned using the webcam, and each insertion or deletion was given by voice or image. It integrated a user-friendly GUI.

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# PUBLICATIONS

- Pérez-Mercado, R., Balderas, A., Muñoz, A., Cabrera, J.F., Palomo-Duarte, M., & Dodero, Juan Manuel (2023). ChatbotSQL: Conversational Agent to support Relational Database Query Language Learning. *SoftwareX*, 22, 101346. [DOI: 10.1016/j.softx.2023.101346](https://doi.org/10.1016/j.softx.2023.101346) [JCR]
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# AWARDS

- First Place in the IX edition of the Multisite Regional AdaByron Competitive Programming Contest (2023).