José Ángel Carretero Montes

Computer Engineering & Business Administration | Data Science

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PROFILE

Fifth-year student of the double degree in Computer Engineering (Computation and Intelligent Systems) and Business Administration at the University of Granada. Specialized in Data Science and artificial intelligence algorithms, with experience in full-stack development, infrastructure automation, and distributed systems. Focused on applying analytical models and machine learning techniques in finance and business.

TECHNICAL SKILLS

Languages: C++, C, Python, SQL, Java, JavaScript, Ruby, Bash
Frameworks: Django, React, Vite
Infrastructure: Docker, Ansible, Linux, Git, Oracle
Data Science: Jupyter, Pandas, NumPy, Matplotlib

EDUCATION

Double Degree in Computer Engineering + Business Administration 2022 – Present
University of Granada
Specialization in Computation and Intelligent Systems

LANGUAGES

English — C1 (Aptis ESOL, British Council, 2026; Speaking & Writing B2) Verify
Spanish — Native

PROJECTS

Talk to Your Money — AI Financial Assistant GitHub
Python, FastAPI, LangGraph, SQLAlchemy, React, Docker

- Financial chat (Cátedra Unicaja challenge, UGR): the LLM only proposes operations; they are validated deterministically and never run without human approval.
- No free-form SQL: 18 tools with parameterized SQLAlchemy queries (no SQL injection by design); 56 tests.

Portfolio Selection with Metaheuristics GitHub
C++17, OpenMP

- 14 metaheuristics (ILS, simulated annealing, genetic, memetic...) on the IBEX 35 and S&P 500 (457 assets), validated out of sample.
- The memetic AM-Best wins on every index; OpenMP-parallelized evaluation.

Danger Theory — Financial Crisis Detection GitHub
Python, Pandas, Genetic Algorithms

- Immune-inspired genetic algorithm that predicts "Black Wednesday" (1992) one day in advance; also validated on the 1994 Mexican crisis.
- Co-authored academic paper and interactive book, supervised by Dr. J. L. Sáez Lozano.