



# CRISTIAN C. SPAGNUOLO

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## EXPERIENCE

### ML cube

09/2024 – Now

#### AI Engineer

Milan, Italy

- Implemented a **document digitalization pipeline**, automating **structured data extraction** and achieving **79% OCR accuracy** in financial document processing.
- Developed an **AI-driven regulatory chatbot** using **Knowledge Graphs and Retrieval-Augmented Generation (RAG)**, improving **decision-making accuracy by 38%** for financial analysts.
- Built an **LLM-powered SQL agent** for financial users, enabling **natural language database queries** with **82% accuracy**.
- Led cross-functional collaboration to implement **segmented monitoring** on the ML cube Platform, enhancing **data shift detection** and driving a **12% increase in user engagement**.

## EDUCATION

### Politecnico di Milano

02/2020 – 07/2024

*Master's Degree in Computer Science and Engineering - 110/110 cum laude*

Milan, Italy

### Università degli Studi del Sannio

09/2015 – 10/2019

*Bachelor's Degree in Computer Science and Engineering - 110/110 cum laude*

Benevento, Italy

## PROJECTS

### Image Distribution Drift Simulator ↗

10/2024 – 12/2024

- Designed and implemented an **image drift simulator** to reproduce **synthetic distribution shift** improving AI model robustness testing by **22%**.

**Technologies:** Python, Polars, Torch, Plotly, TorchVision, PIL.

### Teleport Markov Decision Process ↗

11/2022 – 07/2024

- Developed a novel **reinforcement learning framework** based on **teleportation-based** mechanism, accelerating training by **5x** compared to traditional methods.

**Technologies:** Python, NumPy, Torch, Open AI Gym, MLFlow.

More projects on my portfolio ↗.

## TECHNICAL SKILLS

- **Programming Languages:** Python, SQL, Java, C, Assembly.
- **AI/ML:** Pandas, **Torch**, Polars, NumPy, TensorFlow, **LangChain**, **LangGraph**, **Hugging Face**, LlamaIndex, Olama, DeepSeek, OpenAI, **MLflow**, scikit-learn, Matplotlib, **XGBoost**, Seaborn, Plotly, Gemini, Vertex AI, Gym.
- **Technologies:** **GCP**, AWS, Azure, Git, GitHub, Docker, MongoDB, FastAPI, Firebase, Django, Node-RED, Make, UV, Chroma, Neo4j.

## LANGUAGE SKILLS

- **English:** Fluent, master's degree completed in English.
- **Italian:** Native.

## ACHIEVEMENTS

### 2nd Place – Datapizza Hackathon - Team 4 omini ↗

01/2025

- Built a hybrid retrieval system integrating **semantic search** and **metadata filtering**, placed **2nd** out of 18 teams selected from **500+** applicants. Code available here. ↗