

Giovanni Pinna

AI ENGINEER | ML ENGINEER | APPLIED AI SCIENTIST | SOFTWARE ENGINEER

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SUMMARY

AI Engineer with a **Ph.D. in Applied Data Science & AI** and 3 years building Natural Language Processing (NLP), Large Language Model (LLM) systems, and AI Agents systems. Author of **10+ peer-reviewed publications**. Deployed a Retrieval Augmented Generation (RAG) pipeline, **reducing client support calls by 30%**. Visiting Researcher at **UCL (London)** and **NOVA IMS (Lisbon)**.

EXPERIENCE

University College London (UCL)

London, UK

Visiting Researcher

Sept. 2025 — Dec. 2025

- Co-authored **4+ papers** on AI coding agents, Green AI, and multi-objective optimization for software engineering.
- Led empirical study analyzing **7,156 AI-generated pull requests** across 5 coding agents, revealing a **16-percentage-point acceptance gap** driven by task type.
- Co-developed **GA4GC**, a multi-objective framework using NSGA-II to optimize Large Language Model (LLM) coding AI Agent configurations, achieving **135× hypervolume improvement** and **43.6% runtime reduction** on the SWE-Perf benchmark.

NOVA Information Management School (NOVA IMS)

Lisbon, Portugal

Visiting Researcher

May–Aug. 2024 & May–Aug. 2025

- Created a novel Text-to-SQL evaluation metric (QAS) integrating semantic and structural SQL similarity, benchmarked across **11 models** on the **BIRD dataset**; published in **Scientific Reports (Nature)**, addressing key limitations of binary evaluation approaches.

PLUS S.r.l., Area Science Park

Trieste, Italy

Applied AI Scientist (Industrial PhD. Fellow)

Jan. 2023 — Dec. 2025

- Architected and deployed a production RAG system using Python, LangChain, LlamaIndex, and HuggingFace Transformers, enabling natural language querying of corporate documentation and **reducing client call center volume by 30%**.

EDUCATION

Ph.D. in Applied Data Science and Artificial Intelligence, Doctor Europaeus

Trieste, Italy

University of Trieste

Jan. 2023 — Dec. 2025

- Thesis: “Application of Large Language Models: Addressing Real-World Challenges” — Grade: **With Honors**.
- Engineered a Genetic Improvement pipeline using Grammatical Evolution to auto-correct LLM-generated code, **improving accuracy in 50–75% of cases** across 4 LLMs.
- Built a Natural Language Processing (NLP) pipeline (Python, BERTopic, spaCy) for cross-lingual sentiment analysis on **50 historical newspaper issues**, with LLM-assisted OCR correction.
- Mentored **4 thesis students** (3 M.Sc., 1 B.Sc.); 2 theses led to publications at top-tier conference.
- Teaching Assistant, **Database Systems** (2024) — designed labs and evaluated projects for **100+ students**.

M.Sc. in Computer Engineering

Trieste, Italy

University of Trieste

Sept. 2019 — Oct. 2022

- Thesis: “An Automatic Tool for the Recognition of Punches in Late-Medieval Panel Paintings”.
- Erasmus+ Exchange** at Montanuniversität Leoben (Austria); achieved **top grades in all courses**.
- Contamination Lab (CLab)**: reached **top 7** in university **entrepreneurship competition**, pitching an AI-driven business idea to industry judges. ([Video Presentation](#))

SKILLS

Programming Languages:

Python, SQL, Java, C++

ML & AI Frameworks:

PyTorch, scikit-learn, HuggingFace Transformers, spaCy, NLTK, BERTopic

LLM & Agents:

LangChain, LlamaIndex, LangGraph, RAG Pipelines, Prompt Engineering

NLP & Methods:

Natural Language Processing (NLP), Text-to-SQL, Sentiment Analysis, Topic Modeling, Genetic Improvement, Grammatical Evolution, NSGA-II

Tools & Infrastructure:

Git, Docker, Linux, Streamlit, Gradio