

Francesco Ortu

[in](#) linkedin/in/francescortu [@](#) francescortu [@](#) francescortu.github.io

[📍](#) Trieste, Italy



[👤](#) Profile

AI/ML Fresh graduate specializing in NLP with a solid quantitative background. Aiming to leverage these skills for societal technological advancement. Critical thinker, problem solver, sometimes too skeptical.

[📁](#) Professional Experience

AREA Science Park [🔗](#)

Temporary Research Associate

- Researching in Interpretability of LLMs supervised by Alberto Cazzaniga.

Jan 2023 – present

Trieste, Italy

Max-Planck Institute for Intelligent Systems [🔗](#)

Research Intern

- Member of the Empirical Inference department directed by Prof. Bernhard Schölkopf and supervised by Zhijing Jin.
- Investigating the interplay between fact recall and contextual learning in LLMs through Mechanistic Interpretability, ensuring timely completion of research milestones and effectively documenting findings for academic writing.

Sep 2023 – Jan 2024

Tübingen, Germany

PLUS [🔗](#)

Machine Learning Engineer Intern

- Developed a Retrieval-Augmented Generation (RAG) system utilizing Llama-based LLMs, focusing on optimizing information retrieval processes to significantly improve efficiency and accuracy in knowledge-driven business applications.

Feb 2023 – Apr 2023

Trieste, Italy

[🎓](#) Education

MSc: Data Science and Scientific Computing, 110/110 with Honors

University of Trieste and Udine, SISSA, ICTP

- *Track:* Foundation of AI and ML; all courses taught and assessed in English.
- *Relevant courses:* Deep Learning, Reinforcement Learning, Probabilistic ML, Statistical Methods for Data Science, Foundations of HPC, Advanced Programming and Algorithmic Design
- *Awards:* Received a scholarship for being among the top students in the 2021 cohort.
- *Thesis Title:* Interpreting How Large Language Models Handle Facts and Counterfactuals through Mechanistic Interpretability

Mar 2024

Trieste, Italy

BSc: Mathematics

University of Rome La Sapienza

- *Relevant courses:* Algorithms and Data Structure, Probability and Statistics, Programming

Dec 2020

Rome, Italy

[🧠](#) Skills

Python — PyTorch, HuggingFace, Scikit-Learn, Pandas | **C/C++** — OpenMP, MPI | **R** | **SQL** | **Bash** | **Git** | **MATLAB** | **Linux** | **Multi GPU training** | **Slurm**

[📖](#) Publications

Competition of Mechanisms: Tracing How Language Models Handle Facts and Counterfactuals [🔗](#)

2024

Francesco Ortu, Zhijing Jin, Diego Doimo, Mrinmaya Sachan, Alberto Cazzaniga, Bernhard Schölkopf (Under Review)

[📁](#) Projects

Playing snake with Reinforcement Learning [🔗](#)

2023

- Comparing Different RL Models in Learning to Play Snake. (group project)

Genetics CNN selection [🔗](#)

2023

- Developed a Genetics Algorithm to select CNN architecture, improving accuracy by 75% compared to the baseline. (group project)