

Contact Information



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Federica Del Duchetto

Professional Experience

APRIL 2025-PRESENT | UNIVERSITY OF BOLOGNA

Teaching Assistant

I provide support to first-year students of the Bachelor's degree in Mathematics in learning Python programming, assist them during lab sessions, and help clarify fundamental programming concepts.

2022-PRESENT

Private Math Tutor

I have been providing private tutoring in mathematics to middle and high school students.

Education

2024-PRESENT | UNIVERSITY OF BOLOGNA

Master's Degree in Advanced Mathematics for Applications

2021-2024 | UNIVERSITY OF BOLOGNA

Bachelor's Degree in Mathematics

Graduation: September 2024 (Grade 100/110)

Thesis: "Aligning Large Language Models: A study on Reinforcement Learning from Human Feedback"

High School Diploma in Scientific Studies

Skills

- **Python:** NumPy, Pandas, Matplotlib, Scikit-learn, PyTorch, Hugging Face (Transformers)
- **Matlab:** numerical algorithms development, scripting, data visualization, matrix computations, solving partial differential equations (PDEs)
- **Git, Github**
- **Jupyter Notebook, Google Colab**

Projects

Thesis Project: SFT for Math Question Answering

<https://github.com/FedeDD12/SFTproject.git>

I trained a LLaMA 8B model to answer math-related questions using two custom datasets. I analyzed the differences in performance when training with different datasets and varying the number of epochs.

Group Project: Connect Four Agent

<https://colab.research.google.com/drive/1D6AS8moLga9K32gR2t1G0OfiETUvU2R?usp=sharing>

Developed an agent to play Connect Four with a specific game setting as the final project of the Machine Learning course. The agent was trained using reinforcement learning techniques to optimize its gameplay strategy.

Languages

Italian Native

English B2 (Cambridge English: First - FCE)

Other

Me.Mo Project

2021 | Sant'Anna School of Advanced Studies

Me.Mo is a program offering individual orientation and mentoring to a selected group of students, supporting them in the choice of their university path.

PinKamp

2019 | University of l'Aquila

A two-week program for girls interested in technology to explore STEM disciplines.

Team Math Olympiad Semifinals

2018 | Cesenatico