Marco Nicolini
Università degli studi di Milano

✉ marconicolini23@gmail.com
 NicoRota-0 (GitHub)
 LinkedIn

EXPERIENCE

•**Università degli studi di Milano** — *February 2024 - October 2025*

Research Scientist — Milan
- Designing, implementing and optimizing Large Language Models (LLMs) within the field of biomolecular engineering.

•**IES Abroad** — *January 2022 - May 2022*

Resident Assistant — Milan
- Assisted american students adjusting to Italian culture, worked at the IES Abroad Milan office.

EDUCATION

•**Università degli studi di Milano, Milan (Italy)** — *September 2021 - December 2023*

MSc "Computer Science" — Final Grade 110L/110
- Title of the final thesis: "Language models for the generation of functionally characterized biomolecules".
- Main courses: Bioinformatics, Web Algorithmics, Architectures for Big Data, Artificial Intelligence, Audio Pattern Recognition, Intelligent Systems For Industry, Information Management.

•**Albert-Ludwigs-Universität Freiburg, Freiburg (Germany)** — *October 2022 - March 2023*

Master Exchange Program In Computer Science Engineer department — GPA: 27/30
- Main courses: Information Retrieval, Computer Vision, RNA Bioinformatics.

•**Università degli studi di Milano, Milan (Italy)** — *October 2018 - December 2021*

BSc "Music Information Science" — Final Grade: 110/110
- Title of the final thesis: "Audio-based Human Activity Classification using Transfer Learning".
- Main courses: Computer Programming, Operating Systems, Databases, Web Programming, Computer Science Applied to Music, Algorithms and Data Structures.

•**Universidad Carlos III de Madrid, Madrid (Spain)** — *February 2021 - July 2021*

Bachelor Exchange Program In Computer Science Engineer department — GPA: 27.5/30
- Main courses: Machine Learning, Computer Networks, Software Development.

•**Liceo Musicale Alessandro Manzoni, Varese (Italy)** — *September 2013 - June 2018*

High school, Focus on music and classical studies — Final Grade: 83/100

PUBBLICATIONS

•**Fine-tuning of conditional transformers improves the generation of functional proteins** — *BIOSTEC, 2024*

Proposed a pre-trained model specialization approach on specific protein families
- Shown that fine tuning conditional transformers can enhance the prediction accuracy of the pre-trained models and can generate new potentially functional proteins.

•**Gender-aware speech emotion recognition in multiple languages** — *ICPRAM Springer, 2024*

Proposed a solution for Speech Emotion Recognition in multilingual settings
- Demonstrated that a hierarchical approach that includes prior knowledge of the speaker's gender can improve the overall classification performance.

•**A hierarchical approach for multilingual speech emotion recognition** — *ICPRAM proceedings, 2023*

Proposed a Speech Emotion Recognition algorithm for multilingual audio gender-based classification
- Demonstrated that a gender-based emotion classifier can outperform a general emotion classifier.

•**Lightweight audio-based human activity classification using transfer learning** — *ICPRAM proceedings, 2023*

Developed a Deep Neural Network framework using transfer learning to classify human activities
- Shown that the proposed framework surpasses state-of-art performances while it can be executed on mobile devices.

TECHNICAL SKILLS AND RESEARCH FIELD

Languages: Italian (Mothertongue), English (C1 IELTS certificate obtained in March 2023).
Applications: Microsoft Excel, Word, and PowerPoint. LaTeX, Git, GitHub.
Research Field: Machine Learning, Deep Learning, Bioinformatics, Audio Pattern Recognition.