Francesco Maria Molfese

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Education

Ph.D. in Artificial Intelligence, Sapienza University of Rome, Italy　　　　　Nov. 2022 - Nov. 2025
- Topics: LLMs, Question Answering, Retrieval Augmented Generation, Evaluation, Reasoning.
- Ph.D. Advisor: Prof. Roberto Navigli.

M.Sc. in Engineering in Computer Science, Sapienza University of Rome, Italy　　　Oct. 2019 - Oct. 2021
- Thesis project: Reconciliation of Channel-Generated Keys: Case of High Bit Disagreement Rate and Informed Eavesdropper. Research was carried out in collaboration with the Center for Connected Autonomy and Artificial Intelligence of Florida Atlantic University.
- Thesis advisor: Prof. Francesca Cuomo. Thesis co-advisor: Prof. Dimitris Pados.
- Final grade: 110/110 cum laude. Average exam grade: 29.7 over 30.0.

B.Sc. in Engineering in Computer Science, Sapienza University of Rome, Italy　　　Sept. 2016 - Oct. 2019

Experience

Applied Scientist Intern, Amazon AGI – Barcelona, Spain　　　　　　　　　May 2025 – Oct. 2025

Trained Long-Context Language Models with Reinforcement Learning to augment in-context retrieval capabilities.

NLP Engineer, Babelscape – Rome, Italy　　　　　　　　　　　　　　June 2022 – July 2023

Evaluated state-of-the-art language models for cross-lingual sentence embeddings, developed sentence alignment algorithms based on semantic similarity, and implemented fast and efficient entity disambiguation systems.

Data Scientist, Target Reply – Rome, Italy　　　　　　　　　　　　　Nov. 2021 – May 2022

Development of systems for satellite image segmentation, unsupervised clustering algorithm for efficient allocation of human resources on-field, and microservices for the interaction between client platform, AWS and a big-data-oriented automated pipeline.

Publications

ReTraceQA: Evaluating Reasoning Traces of Small Language Models in Commonsense Question Answering　　　　　　　　　　　　　　　　ArXiv Preprint

Francesco Maria Molfese, Luca Moroni, Ciro Porcaro, Simone Conia, Roberto Navigli

Right Answer, Wrong Score: Uncovering the Inconsistencies of LLM Evaluation in Multiple-Choice Question Answering　　　　　　　　　　　　　　ACL 2025

Francesco Maria Molfese, Luca Moroni, Luca Gioffré, Alessandro Scirè, Simone Conia, Roberto Navigli

ZEBRA: Zero-Shot Example-Based Retrieval Augmentation for Commonsense Question Answering　　　　　　　　　　　　　　　　　　EMNLP 2024

Francesco Maria Molfese, Simone Conia, Riccardo Orlando, Roberto Navigli

CNER: Concept and Named Entity Recognition　　　　　　　　　　　　NAACL 2024

Giuliano Martinelli, **Francesco Maria Molfese**, Simone Tedeschi, Alberte Fernandez Castro, Roberto Navigli

CroCoAlign: A Cross-Lingual, Context-Aware and Fully-Neural Sentence Alignment System for Long Text　　　　　　　　　　　　　　　　EACL 2024

Francesco Maria Molfese, Andrei Stefan Bejgu, Simone Tedeschi, Simone Conia, Roberto Navigli