Eleni Papadopulos

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About me

I am a **PhD student in Artificial Intelligence at Politecnico di Torino**, where my research focuses on understanding how AI models process persuasive communication. With a **strong mathematical foundation** and **expertise across statistical learning and deep learning**, I am a curious and motivated researcher eager to apply advanced machine learning techniques to real-world challenges that create tangible impact.

Education

National PhD in Artificial Intelligence

Politecnico di Torino | 2024 - 2027

Research project: *Machine learning for analysis and persuasive communication generation for virtual or physical agents*

Research topics: Natural Language Processing, Deep Learning, Explainable AI, Logic, AI reasoning, Computational Social Science

MSc in Data Science

Università degli Studi di Padova | 2022 - 2024

Curriculum: Mathematics of Data Science

Relevant courses: Optimization for Data Science, Statistical Learning, Machine and Deep Learning, Natural Language Processing, Reinforcement Learning, Vision and Cognitive Systems

Thesis: Logical Fallacy Detection using Large Language Models

Final mark: 110/110 cum Laude

BSc in Mathematical Sciences

Università del Salento | 2019 - 2022

Relevant courses: Programming, Algorithms and Data Structures, Numerical Analysis and Advanced Numerical Analysis

Thesis: Polynomial Reductions and NP-completeness

Final mark: 110/110 cum Laude

Experience

Teaching Assistant

Università degli Studi di Padova | April - May 2025

Delivered NLP lessons on text generation (n-grams, neural language models, LLMs) for Data Science and Computer Engineering MSc programmes

HPC Cluster Seminar Instructor

Università degli Studi di Padova | December 2025

Taught Master's and PhD students about high-performance computing clusters for computational research

Technical Skills

Programming Languages: Python, C++, R, MATLAB

Key libraries: Scikit-Learn, NumPy, Pandas, Matplotlib, PyTorch, Hugging Face Transformers

Soft Skills

- Strong analytical and **problem-solving skills** with mathematical rigor
- Collaborative **team player** with experience in interdisciplinary research
- **Creative thinking approach** to complex computational challenges
- Excellent **written and oral communication skills** in academic and technical contexts

Languages

Italian: Native | **English**: C2 (Proficient) | **French**: A2 | **German**: A1

Publications

- Eleni Papadopulos, Firoj Alam, Giovanni Da San Martino. **“Pattern-based Logical Fallacy Classification using Decoder-Only Large Language Models”** (Submitted to ACL Rolling Review (ARR), January 2026 cycle)
- Arkadiusz Modzelewski, Witold Sosnowski, Eleni Papadopulos et al. **"MALicious INTent Dataset and Inoculating LLMs for Enhanced Disinformation Detection."** (Submitted to EACL 2026)
- Eleni Papadopulos, Tiziano Labruna. **"Label at FaDeIT: Classifying Fallacies with Human Variations Labels with LLMs Distribution."** (EVALITA 2026)

Selected projects

- **Reinforcement Q-learning for Optimal Tracking Control**

Final project for the Distributed Machine Learning and Optimization exam (PhD)
Implemented Q-learning algorithms for optimal tracking control in linear discrete-time systems, addressing control problems with unknown system dynamics

- **Implementation of a Neural Parser for Syntactic Analysis**

Final project for the Natural Language Processing exam (MSc)
Developed and evaluated neural parsing models using dependency and constituency frameworks, implementing transformer-based architectures

- **Gradient Methods for Semi-supervised Learning**

Final project for the Optimization for Data Science exam (MSc)
Implemented gradient descent algorithms for semi-supervised binary classification, exploring optimization strategies with limited labeled data

- **Face Parsing using U-Net and its variants**

Final project for the Computer Vision exam (MSc)
Developed and compared four U-Net-based architectures for semantic face segmentation, including a conditional GAN

- **Employee Attrition Prediction through Statistical Models**

Final project for the Statistical Learning exam (MSc)
Analyzed factors contributing to employee turnover using statistical modeling and machine learning techniques to predict attrition patterns