

Margherita Necchi

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EDUCATION

Master of science in Data and Artificial Intelligence

September 2025 - present

Institut Polytechnique de Paris

Palaiseau (Paris), France

Relevant coursework: Optimisation and Responsible AI, Advanced Deep Learning, Text Mining and NLP, Graph Learning, Large-scale Generative Models for NLP and Speech Processing, Verification of neural networks, Reinforcement Learning, Database management systems, Knowledge Base Construction, Logics and Symbolic AI, AI Ethics, ...

Bachelor of science in Artificial Intelligence and Data Analytics

September 2022 - July 2025

Università degli studi di Trieste

Trieste, Italy

Relevant coursework: Statistical Inference, Data Structures & Algorithms, Advanced and Parallel Programming, Optimization Algorithms, Machine Learning, Mathematical Methods Applied to AI, ...

Liceo Classico Manzoni

September 2017 - June 2022

Milan, Italy

WORK EXPERIENCE

YAGO Knowledge Base | *Research, Knowledge Representation, Formal Semantics*

March 2026 – Jun 2026

Institut Polytechnique de Paris

Palaiseau, France

- Investigated punning in knowledge graphs: the phenomenon in which an entity acts both as a class and as an individual, focusing on its implications for the logical consistency of YAGO.
- Designed and evaluated schema-level solutions for representing complex relationships while preserving logical consistency.
- Formalized requirements for representing punning while preserving existing reasoning capabilities, and compared RDF/OWL-based and other Semantic Web formalisms against these requirements.
- Contributed to research resulting in papers accepted to ISWC 2026.

Studio Ingegneria Web | *Websites, Projects, Database*

September 2024 - March 2026

- Developed management software and database solutions as part of a team of web developers
- Managed working alongside university studies, balancing both commitments.
- Applied software engineering and research-driven approaches to develop high-performance tools.
- Led assigned projects from requirements and implementation through delivery, coordinating a small team of developers.

MKM CUBE srl | *IoT Systems Data Analysis and Performance Monitoring*

January 2024 - June 2024

- Monitored the operational status of 450+ IoT devices deployed across Italy, Switzerland, and Greece through an internal monitoring platform.
- Assessed critical metrics including waste fill levels, battery health, compaction frequency, and connectivity to identify and escalate system issues.
- Processed weekly operational data to identify trends and support optimization of collection and logistics workflows.
- Led API-based data integration between the monitoring platform and a client's smart-city software, ensuring reliable communication and feature compatibility.

DUNE group | *Intern, SAP, Consulting*

June 2021

- Participated in an internship at DUNE group, a company specialised in IT consulting and software development (SAP).
- Worked with a team of professionals in consulting.

SISTEMA PROGETTO S.p.A. | *Efficiency, Teamwork*

January 2021

- Participated in a document management project aimed to categorise internal project documentation.
- Worked in a small team to create categorisation and registration of documents within an archive.

PROJECTS

- Bachelor Thesis** | *Detection of Misogynistic Tweets with Machine Learning Models* March 2025 - July 2025
- Designed and implemented machine learning models to identify misogynistic content in Italian tweets.
 - Dataset obtained from the AMI EVALITA competition.
 - Performed specific data cleaning pipeline for social media text, tokenization, and text normalization for social media text.
 - Compared traditional ML approaches (SVM, Logistic Regression) with transformer-based models (BERT).
 - Achieved significant performance improvements in classification metrics, analyzing linguistic bias in online discourse.
- Research Project** | *YAGO 4.5: Taxonomy Integration and Knowledge Graph Curation* 2025 – Present
- Contributed to the curation and alignment of Wikidata classes into a clean upper taxonomy based on Schema.org, preserving logical consistency and the class/instance distinction.
 - Analyzed and resolved taxonomy issues (e.g., missing labels, ambiguous class granularity, redundant or cyclic subclass links), improving usability for downstream retrieval and reasoning.
 - Worked with RDF/Turtle modeling and schema constraints (e.g., SHACL-style domain/range validation) to enforce schema compliance and reduce noisy statements.
 - Performed targeted quality checks on mappings and entities, including identifier normalization and verification of key properties (e.g., production company, director, time period) for domain-specific types.

PUBLICATIONS

- YAGO 4.6: A Logically Consistent Subset of Wikidata - ISWC 2026, accepted** 2026
- ISWC 2026 Demo Track* — Accepted, International Semantic Web Conference, Bari, Italy.
- A Formal Analysis of Classes that Act as Individuals in Wikidata: Punning Intended** 2026
- ISWC 2026 Wikidata Workshop* — Accepted, International Semantic Web Conference, Bari, Italy.

HONORS AND AWARDS

- Bocconi University** | *Competition* 16 November 2021
- Won mathematical competition among all the students from my high school.
- HITACHI** | *Scholarship* 2018, 2020, 2021, 2022, 2023, 2024, 2025
- Scholarship for academic merits award by HITACHI.

EXTRACURRICULAR ACTIVITIES

- Fencing** | *Athlete* 2015 - Present
- Continued practicing at a non-competitive level in fencing in Trieste and Paris, after several years on the competitive fencing team in Milan.
- New Marigold Academy** | *Volunteer, Computer Science* August 2024
- Spent three weeks in Nepal teaching at a school. Conducted classes of Computer Lab, English and mathematics.
- Scout group Milano 51 and Trieste 8** | *Leader* Sept. 2010 - July 2023
- Member of the group (Milan), Volunteer (Trieste) : organising and participating in different activities, including community service, hiking, reflections about religion or politics. Role of responsibility which has allowed me to develop my leadership skills.
- Missions (MVC)** | *Volunteer, Construction* August 2021
- Partecipated in an humanitarian mission in Perù. Helped building a school; spent time in orphanage with girls aged 2-13 yrs, helped them with homework and entertained them; built houses in a favela.

SKILLS AND INTERESTS

- Languages:** Italian: Native speaker; English: Fluent (C1); French: Beginner; German: Beginner
- Tools:** Python, C, R, SQL, JavaScript, Php, Matlab, Git
- Interest:** Japanese literature, podcasts, sailing, hiking, International politics magazines (Internazionale, The economist)