

# Steve Azzolin

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## Education

### University of Trento

ELLIS PH.D. STUDENT

- Supervisors: Bruno Lepri & Andrea Passerini
- ELLIS partner: Pietro Liò (University of Cambridge)

Trento, IT

Nov. 2023 - Curr

### University of Cambridge

RESEARCH VISITING STUDENT

- MSc Thesis: Global Explainability of GNNs via Learned Logic Formulas

Cambridge, UK

June. 2022 - Sept. 2022

### University of Trento

M.S. IN ARTIFICIAL INTELLIGENCE SYSTEMS

- Final score: 110/110 cum laude

Trento, Italy

Sept. 2020 - March. 2023

### University of Trento

B.S. IN COMPUTER SCIENCE

- Final score: 110/110 cum laude
- Thesis: Unsupervised learning for customer segmentation and its interpretability

Trento, Italy

Sept. 2017 - Jul. 2020

## Research Experience

### Structured Machine Learning Lab

RESEARCH ASSISTANT

- Benchmarked and surveyed SOTA tools for GNN Explainability

Trento, Italy

May 2022 - Oct. 2023

### Signals & Interactive Systems Lab

RESEARCH INTERN

- Tested, developed, and analyzed Deep Sentiment Analyzer for Italian corpora
- Improved the state-of-the-art for the Italian language from 0.64 to 0.69 of F1 score

Trento, Italy

Feb. 2020 - Jan. 2022

### Blue Reply

MACHINE LEARNING INTERN

- Applied and optimized unsupervised ML techniques for customer segmentation

Padova, Italy

Feb. 2020 - Jun. 2020

## Publications

- Longa A., [Azzolin S.](#), Santin G., Cencetti G., Liò P., Lepri B., Passerini A. "Explaining the Explainers in Graph Neural Networks: A Comparative Study". ACM Computing Surveys 2024
- Zaghen O., Longa A., [Azzolin S.](#), Telyatnikov L., Passerini A., Liò P. "Sheaf Diffusion Goes Nonlinear: Enhancing GNNs with Adaptive Sheaf Laplacians". GRaM Workshop @ ICML 2024
- M. Jaeger, A. Longa, [S. Azzolin](#), O. Schulte, A. Passerini "A Simple Latent Variable Model for Graph Learning and Inference". LOG 2023
- [Azzolin S.](#), Longa A., Barbiero P., Liò P., Passerini A. "Global Explainability of GNNs via Logic Combination of Learned Concepts". ICLR 2023
- Roccabruna G., [Azzolin S.](#), Riccardi G. "Multi-source Multi-domain Sentiment Analysis with BERT-based Models". LREC 2022 (Equal contribution)
- Mousavi S., Roccabruna G., Tammewar A., [Azzolin S.](#), Giuseppe Riccardi "Can Emotion Carriers Explain Automatic Sentiment Prediction? A Study on Personal Narratives". WASSA @ ACL 2022

## Talks & Tutorials

### Alan Turing Institute

- Hands-on Tutorial on Explainability for GNNs

Virtual

16 Nov. 2023

### Cambridge Talks 2022

- Presented the paper *Global Explainability of GNNs via Logic Combination of Learned Concepts*

Virtual

24 Nov. 2022

## Academic Service

**Organiser:** LoG Conference 2024 (Local meetup chair),

**Reviewer:** ICLR 2024, LoG 2024, UniReps@NeurIPS 2023, COLING 2022

# Networks

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## LOG Local Meetup

ORGANIZER

Nov. 2023

- Organized the first Italian local meetup of the LOG conference, providing an environment for researchers in this field to foster networking.

## Lead the Future

MENTEE & REVIEWER

Sep. 2021 - Curr.

- LeadTheFuture is a leading mentorship non-profit organization for students in STEM, with an acceptance rate below 20, empowering top-performing students to achieve their goals and contribute to their communities

# Extracurricular Training

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## Generative Modeling Summer School

ATTENDEE

July. 2024

## Cambridge ELLIS Machine Learning Summer School

ATTENDEE

July. 2022

## Eastern European Machine Learning Summer School

ATTENDEE

July. 2022

## Serbian Machine Learning Workshop

ATTENDEE

May. 2022

## CMMRS 2021

ATTENDEE

Aug. 2021

# Competitions & Awards

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## COMPETITIONS

2019 **Finalist**, Soccer Data Challenge

Trento, Italy

2017 **First Place**, Memorie Migranti Video Making National Contest

Gualdo Tadino, Italy

2015 **Finalist**, Robocup Junior Italia

Milan, Italy

## AWARDS

2023 **Awarded**, 6 months Research Scholarship at the University of Trento

Trento, Italy

2017-2019 **Awarded**, Opera Universitaria Annual Scholarship

Trento, Italy

2017 **Awarded**, Mason Vicentino Scholarship for Academic Merits

Colceresa, Italy