Ivan **Marisca**

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Italian

November 1995

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LANGUAGES

Italian (Native)

English (Professional)

French (Basic)

Spanish (Basic)

About Me

I am a Ph.D. student at the Graph Machine Learning Group, within the Swiss AI lab IDSIA, at Università della Svizzera italiana (USI), under the supervision of Prof. Cesare Alippi. My research focuses on problems regarding **irregular spatiotemporal data**, like prediction, imputation, and control on sensor networks using **geometric deep learning**.

I obtained BSc (2017) and MSc (2020) degrees in Computer Science and Engineering at Politecnico di Milano. My master thesis project has been supervised by Prof. Nicola Gatti.

Education

Ph.D. Student in Informatics — 2020 — ongoing
Università della Svizzera italiana

Currently, I am a Ph.D. Student at the Swiss AI Lab IDSIA at USI Università della Svizzera Italiana, under the supervision of prof. Cesare Alippi.

MSc in Computer Science and Engineering — 2017 — 2020
Politecnico di Milano

Master's degree with honors (110/110L), defending a thesis on machine learning. During the two years of studies, I mostly attended AI-oriented courses.

Erasmus — Sep 2018 — Jan 2019
Universitat Politècnica de València

During the semester spent abroad (in Valencia) within the Erasmus program, I attended Spanish and English courses on programming, robotics and artificial intelligence.

BSc in Engineering of Computing Systems — 2014 — 2017
Politecnico di Milano

The course program covered general topics of engineering and computer science.

High School in Mathematics — 2009 — 2014
Liceo C. Caminiti

High school diploma with a specific focus in mathematics and science at *Liceo Scientifico Caminiti* in Santa Teresa di Riva (Sicily).

Academic Activities

Teaching

- **Advanced Topics in Machine Learning**, MSc at USI — Sep 2022 — Jan 2023
  Students tutoring for projects on reproducibility.
- **Graph Deep Learning**, MSc at USI — Feb 2022 — Jun 2022
  I gave a lecture on Spatiotemporal Graph Neural Networks and tutored students on projects.
- **Machine Learning**, BSc at USI — Feb 2021 — Jun 2021
  Lab sessions on practical aspects and show how to design machine learning solutions to real-world problems.

Supervised students

- **Marco Latella**, MSc at USI — 2022
  Graph Representation Learning for Multi-site Photovoltaic Energy Production

Talks

- **Spotlight presentation** at TGL Workshop — 2022
  The Temporal Graph Learning Workshop at NeurIPS 2022 (New Orleans).
- **Poster presentation** at NeurIPS — 2022
  The 36th Conference on Neural Information Processing Systems (New Orleans).
- **Invited talk** at Baker Hughes — 2022
  Invited to give a webinar on time series imputation (Virtual).
- **Poster presentation** at ICLR — 2022
  The 10th International Conference on Learning Representations (Virtual).

Last update: Mar 17, 2023

- **Abstract presentation** at MLDM 2021
  The 10th Italian Workshop on Machine Learning and Data Mining (Virtual).

Awards & Scholarships

- **Best Paper Award** — Temporal Graph Learning Workshop @ NeurIPS 2022
  For the paper "Scalable Spatiotemporal Graph Neural Networks".
- **Travel Award** — NeurIPS 2022
  Travel award to attend the NeurIPS conference in New Orleans (US).
- **Scholarship** — SAPAR 2019
  Scholarship awarded to the 4 best STEM students.
- **Scholarship** — Politecnico di Milano 2019
  Reduced tuition for high merits.

Projects

I believe in worldwide accessibility of science. As such, I make the software I develop for my research publicly available (whenever possible) through my GitHub page. You can also find the code related to my publications on the GitHub page of Graph Machine Learning Group.

Torch Spatiotemporal

Torch Spatiotemporal (**TSL**) is a library built upon PyTorch and PyG for neural spatiotemporal data processing, with a focus on Graph Neural Networks.

GitHub Documentation

Other projects

- **GraPV** Sep 2020 — ongoing
  Developing of graph-based methods for multi-site photovoltaic power forecasting, to improve production accuracy prediction. Funded by Innosuisse.

Publications

Taming Local Effects in Graph-based Spatiotemporal Forecasting
Andrea Cini[*] , ***Ivan Marisca***[*] , *Daniele Zambon , Cesare Alippi*
Preprint

Scalable Spatiotemporal Graph Neural Networks
Andrea Cini[*] , ***Ivan Marisca***[*] , *Filippo Maria Bianchi , Cesare Alippi*
AAAI 2023

Learning to Reconstruct Missing Data from Spatiotemporal Graphs with Sparse Observations
Ivan Marisca[*] , *Andrea Cini*[*] , *Cesare Alippi*
NeurIPS 2022

Filling the G_ap_s: Multivariate Time Series Imputation by Graph Neural Networks
Andrea Cini[*] , ***Ivan Marisca***[*] , *Cesare Alippi*
ICLR 2022

[*]Equal contribution.