



## Ivan Marisca

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Researcher at USI

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### LANGUAGES

Italian (Native)

English (Professional)

French (Basic)

Spanish (Basic)

## About Me

I am CTO of [GraphSight](#), a Swiss startup that provides AI-powered graph-based forecasts for renewable energy systems. I recently completed my Ph.D. in the [Graph Machine Learning Group](#) at [IDSIA](#) and [Università della Svizzera italiana \(USI\)](#) in Lugano (Switzerland), under the supervision of Prof. [Cesare Alippi](#). I was also part of the [ELLIS](#) Ph.D. program, jointly supervised by Prof. Alippi and Prof. [Michael Bronstein](#). Previously, I earned my BSc (2017) and MSc (2020) in Computer Science and Engineering from [Politecnico di Milano](#) (Italy). I have been a visiting researcher at the [University of Oxford](#) with Prof. Bronstein and at [UiT The Arctic University of Norway](#) (Tromsø) with Prof. [Filippo Maria Bianchi](#).

My research focuses on **graph deep learning for irregular spatiotemporal data**. I'm interested in the application of **graph-based** methods in problems regarding data coming from **sensor networks**, like **imputation**, **filtering**, and **prediction** of irregularly sampled observations.

## Education

<b>Ph.D. in Informatics</b>	2020 — 2025
📍 <a href="#">Università della Svizzera italiana (USI)</a>	
Ph.D. graduate from IDSIA and Università della Svizzera italiana (USI), where I was supervised by Prof. Cesare Alippi.	
<b>Research visit</b>	Mar 2024 — Aug 2024
📍 <a href="#">University of Oxford</a>	
6-month research visit within the group of Prof. Michael Bronstein.	
<b>MSc in Computer Science and Engineering</b>	2017 — 2020
📍 <a href="#">Politecnico di Milano</a>	
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.	
<b>Exchange</b>	Sep 2018 — Jan 2019
📍 <a href="#">Universitat Politècnica de València</a>	
During the semester spent abroad – in Valencia – within the Erasmus program, I attended Spanish and English courses on programming, robotics and AI.	
<b>BSc in Engineering of Computing Systems</b>	2014 — 2017
📍 <a href="#">Politecnico di Milano</a>	
The course program covered general topics of engineering and computer science.	
<b>High School in Mathematics</b>	2009 — 2014
📍 <a href="#">Liceo C. Caminiti (IT)</a>	
High school diploma with a specific focus in mathematics and science.	

## Academic Activities

### Teaching

<b>Advanced Topics in Machine Learning (TA)</b> – MSc at USI	Sep 2024 — Jan 2025
Guest lecturer, teaching assistant, and tutor for team projects.	
<b>Advanced Topics in Machine Learning (TA)</b> – MSc at USI	Sep 2023 — Jan 2024
Teaching assistant, involved in course organization, lecture preparation and student tutoring.	
<b>Graph Deep Learning (TA)</b> – MSc at USI	Feb 2023 — Jun 2023
Lectures design and students tutoring on team projects.	
<b>Advanced Topics in Machine Learning (TA)</b> – MSc at USI	Sep 2022 — Jan 2023
Students tutoring for projects on reproducibility.	
<b>Graph Deep Learning (TA)</b> – MSc at USI	Feb 2022 — Jun 2022
I gave a lecture on Spatiotemporal Graph Neural Networks and tutored students on projects.	
<b>Introduzione all'Intelligenza Artificiale e ML (TA)</b> – MSc at USI	Sep 2021 — Jan 2022
Course on AI and ML delivered in Italian for high school teachers.	
<b>Machine Learning (TA)</b> – BSc at USI	Feb 2021 — Jun 2021
Lab sessions on practical aspects and show how to design machine learning solutions to real-world problems.	

Last update: Jan 31, 2026

I hereby authorize the use of my personal data in accordance to the GDPR 679/16 - "European regulation on the protection of personal data".

## Supervised students

- **Valentina Moretti**, MSc at USI and Politecnico di Milano 2024  
*Quasi-stateful RNNs with Truncated Back-propagation Through Time.*
- **Simone Mugnai**, MSc at USI and University of Bologna 2024  
*Graph-based Imputation and Smoothing for Forecasting with Missing Data.*
- **Marco Latella**, MSc at USI and University of Milano-Bicocca 2022  
*Graph Representation Learning for Multi-site Photovoltaic Energy Production.*

## Talks

- **Invited talk** at University of Oxford May 2024  
Talk on graph deep learning for irregular spatiotemporal data at the [Learning on Graphs and Geometry \(LoG<sup>2</sup>\)](#) seminar series.
- **Invited talk** at Baker Hughes (Virtual) Jul 2022  
Seminar on time series imputation for the Baker Hughes' AI team.
- **Spotlight talk** at TGL Workshop (New Orleans) Dec 2022  
Presenting the paper [Scalable Spatiotemporal Graph Neural Networks](#) at the [Temporal Graph Learning Workshop](#) at NeurIPS 2022.
- **Tutorial** at LoG Conference (Virtual & Siena, Italy) Nov 2024  
Presentation of the tutorial [Graph Deep Learning for Time Series Processing](#) with Andrea Cini and Daniele Zambon. ( [Video](#))
- **Tutorial** at ECML/PKDD (Turin) Sep 2023  
Presentation of the tutorial [Graph Deep Learning for Spatiotemporal Time Series](#) with Andrea Cini and Daniele Zambon.
- **Reading group presentation** at TGL reading group (Virtual) Feb 2024  
Presenting the paper [Taming Local Effects in Graph-based Spatiotemporal Forecasting](#) at the [Temporal Graph Learning Reading Group](#). ( [Video](#))
- **Reading group presentation** at TGL reading group (Virtual) Apr 2023  
Presenting the paper [Scalable Spatiotemporal Graph Neural Networks](#) at the [Temporal Graph Learning Reading Group](#).

## Awards & Scholarships

- **Doctoral Mobility grant** — Università della Svizzera italiana Dec 2023  
Grant of CHF 20'000 (~\$23K) for a 6-month research stay at [University of Oxford](#) to work with Prof. Michael Bronstein's group.
- **Travel Award** — NeurIPS Dec 2023  
Travel award to attend the NeurIPS conference in New Orleans (US).
- **Best Paper Award** — [Temporal Graph Learning Workshop](#) @ NeurIPS Dec 2022  
For the paper [Scalable Spatiotemporal Graph Neural Networks](#).
- **Travel Award** — NeurIPS Nov 2022  
Travel award to attend the NeurIPS conference in New Orleans (US).
- **Scholarship** — National Association SAPAR 2019  
Scholarship awarded to the top-4 students in STEM subjects.
- **Scholarship** — Politecnico di Milano 2019  
Reduced tuition for high merits.

## Program Committee Member

- **Journals**  
Journal of Machine Learning Research (JMLR) — IEEE Transactions on Neural Networks (TNNLS) — Neural Networks.
- **Conferences**  
Advances in Neural Information Processing Systems (NeurIPS) — International Conference on Machine Learning (ICML) — International Joint Conference on Neural Networks (IJCNN).

## Publications

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What Matters in Deep Learning for Time Series Forecasting?

Valentina Moretti, Andrea Cini, **Ivan Marisca**, Cesare Alippi

*Preprint*, 2025

Torch Geometric Pool: the Pytorch library for pooling in Graph Neural Networks

Filippo Maria Bianchi, Carlo Abate, **Ivan Marisca**

*Preprint*, 2025

Over-squashing in Spatiotemporal Graph Neural Networks

**Ivan Marisca**, Jacob Bamberger, Cesare Alippi, Michael M. Bronstein

*To appear in Advances in Neural Information Processing Systems*, 2025

PeakWeather: MeteoSwiss Weather Station Measurements for Spatiotemporal Deep Learning

Daniele Zambon\*, Michele Cattaneo\*, **Ivan Marisca**, Jonas Bhend, Daniele Nerini, Cesare Alippi

*Preprint*, 2025

Graph-based Forecasting with Missing Data through Spatiotemporal Downsampling

**Ivan Marisca**, Cesare Alippi, Filippo Maria Bianchi

*International Conference on Machine Learning*, 2024

Graph Deep Learning for Time Series Forecasting

Andrea Cini, **Ivan Marisca**, Daniele Zambon, Cesare Alippi

*ACM Computing Surveys*, 2025

Taming Local Effects in Graph-based Spatiotemporal Forecasting

Andrea Cini\*, **Ivan Marisca**\*, Daniele Zambon, Cesare Alippi

*Advances in Neural Information Processing Systems*, 2023

Scalable Spatiotemporal Graph Neural Networks

Andrea Cini\*, **Ivan Marisca**\*, Filippo Maria Bianchi, Cesare Alippi

*Proceedings of the AAAI conference on artificial intelligence*, 2023

Learning to Reconstruct Missing Data from Spatiotemporal Graphs with Sparse Observations

**Ivan Marisca**\*, Andrea Cini\*, Cesare Alippi

*Advances in Neural Information Processing Systems*, 2022

Filling the G\_ap\_s: Multivariate Time Series Imputation by Graph Neural Networks

Andrea Cini\*, **Ivan Marisca**\*, Cesare Alippi

*International Conference on Learning Representations*, 2022

\*Equal contribution.