

# Valentina Ghidini

PHD STUDENT · STATISTICS

Bocconi University, Milan

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## Research Interests

Complex networks, Bayesian nonparametrics, statistical learning, eXplainable AI, interpretable machine learning, clustering, latent variable modelling.

## Education

### Bocconi University

PHD, STATISTICS

Milan, Italy

2019 - 2024 (Exp.)

- Advisors: O. Papaspiliopoulos, D. Durante

### University of Turin

MSc, STOCHASTICS AND DATA SCIENCE

Turin, Italy

2017 - 2019

- Thesis: Quantitative and Ontology-Based eXplainable Artificial Intelligence techniques for Computer Vision
- Grade: 110/110 summa cum laude, with special mention for the academic curriculum

### University of Milano-Bicocca

BSc, STATISTICS AND INFORMATION MANAGEMENT

Milan, Italy

2014 - 2017

- Thesis: Analysis of the scientific network in PubMed using Graph Databases
- Grade: 110/110 summa cum laude

## Research Experience

### ISI Foundation

RESEARCH INTERNSHIP - DEEP LEARNING & XAI

Turin, Italy

Feb 2019 - Sep 2019

- Application of eXplainable Artificial Intelligence to Computer Vision and Convolutional Neural Networks

### CRISP

RESEARCH INTERNSHIP - DATA SCIENCE

Milan, Italy

Sep 2016 - Mar 2017

- Implementation of a Graph Database, exploiting NLP techniques, data & graph analysis

## Publications

### REFEREED JOURNALS

Borgonovo, E., **Ghidini, V.**, Hahn, R., Plischke, E. <sup>1</sup> 2023. *Explaining Classifiers with Measures of Statistical Association*. Computational Statistics & Data Analysis, *forthcoming*.

### CONFERENCE PROCEEDINGS

**Ghidini, V.**, Legramanti, S., Argiento, R., 2023. *Extended Stochastic Block Model with Spatial Covariates for Weighted Brain Networks*. Bayesian Statistics, New Generations New Approaches (BAYSM2022), *forthcoming*.

**Ghidini, V.**, Perotti A., Schifanella R., 2019. *Quantitative and Ontology-Based Comparison of Explanations for Image Classification*. Lecture Notes in Computer Science 11943, 58–70.

### IN PREP

*Bayesian clustering of weighted networks with spatial node attributes*, joint work with S. Legramanti, R. Argiento.

<sup>1</sup>Authors in alphabetical order

*Bayesian nonparametric clustering of multiplex networks*, joint work with D. Durante, O. Papaspiliopoulos.

*Linear models with assumptions-free residuals: a Bayesian nonparametric approach*, joint work with F. Ascolani.

## Presentations

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### CONTRIBUTED TALKS

**Workshop on CLUstering: Bayesian Partition Models for Precise Medicine** February 24, 2023 — Turin, Italy

**INFORMS Annual Meeting**, October 24-27, 2021 — Anaheim, California (online).

**International Conference on Machine Learning, Optimization, and Data Science**, September 10-13, 2019 — Pavia, Italy.

### POSTERS

**EAC ISBA**, July 8 - 9, 2022 — Taiwan (online).

**ISBA World Meeting** June 26 - July 2, 2022 — Montreal, Canada.

### OTHER

**Seminar series on *Responsible Modelling in Uncertain Times*** November 2021 — Panel discussion.

## Awards

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Travel grant (on competitive basis) for 2022 World Meeting of the International Society for Bayesian Analysis, Montreal, Canada.

International Society for Bayesian Analysis, July 2022

PhD scholarship, four years.

Bocconi University, 2019

## Teaching Experience

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Spring 2022 - current	<b>Advanced Python (Data Science module) - course 30590</b> , Adjunct Lecturer	Bocconi University
Fall 2021	<b>Mathematics - course 30400</b> , Teaching Assistant	Bocconi University
Spring 2021 - current	<b>Statistics</b> , Teaching Assistant	University of Bergamo
Fall 2020 - current	<b>Statistics - course 30001</b> , Teaching Assistant	Bocconi University

## Editorial Work

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Reviewer for the *European Journal of Operation Research*.

## Certifications

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### **Natural Language Processing with Classification and Vector Spaces (2021)**

Institute: Coursera

Certificate number: GAJZ9GRHKN8D

### **PhD Beat - Bocconi Excellence in Advanced Teaching (2021)**

Institute: Bocconi University

**Deep Learning Specialization (2019)**

Courses: Neural Networks and Deep Learning, Hyperparameters tuning, Sequence models, Convolutional Neural Networks.

Institute: Coursera

Certificate number: 9C4VZEV8YTW7

**SAS Certified Base Programmer for SAS 9 (2017)**

Institute: SAS Institute

Certificate number: BP069923v9

**SAS Predictive Modeler Using SAS Miner 13 (2017)**

Institute: SAS Institute

Certificate number: PMEM001296v13

**First Certificate in English (FCE) (2013)**

Institute: Cambridge Institute

**Others**

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**PROGRAMMING LANGUAGES**

**R, python, SAS:** excellent

**SQL, cypher:** intermediate

**C, C++, MATLAB:** basics

**LANGUAGES**

**Italian:** native

**English:** fluent

**PROFESSIONAL MEMBERSHIPS**

International Society for Bayesian Analysis, ISBA

Institute of Mathematical Statistics, IMS

BayesLab of Bocconi Institute for Data Science and Analytics, BIDS

Società Italiana di Statistica, SIS