

# Andrea Gilardi | Curriculum Vitae

– Milan, Italy

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## Summary

I am a research fellow in Statistics at the University of Milan - Bicocca, Department of Economics, Management and Statistics (DEMS). My main research interests are spatial and spatiotemporal models on road networks. Love coding in R.

## Education

### University of Milan - Bicocca

*PhD in Statistics and Mathematical Finance*

NOV.17–APR.21

### University of Milan - Bicocca

*Master Degree in Statistics*

SET.15–OTT.17

Final mark: 110/110 e lode (Magna cum laude)

### Università of Milan - Bicocca

*Bachelor Degree in Statistics*

SET.12–SET.15

Final mark: 110/110 e lode (Magna cum laude)

## Teaching

**Teaching Assistant:** Lab Data Challenges, University of Milan - Bicocca

FEB.21–MAY.21

**Teaching Assistant:** Introduction to Statistical Inference, University of Milan - Bicocca

SEP.17–FEB.21

**Teaching Assistant:** R for Road Safety. RAC Foundation. [Program](#) and [Materials](#).

OCT.19–OCT.19

**Tutor:** Introduction to R, University of Milan - Bicocca. [Materials](#).

MAR.19–APR.19

**Tutor:** Introduction to *tidyverse* and *plumber*, University of Turin - Master in Data Science

OCT.18–OCT.18

**Teaching Assistant:** Statistica Economica M., University of Milan - Bicocca

APR.18–JUL.18

**Teaching Assistant:** Informatics, University of Milan - Bicocca

MAY.17–SEP.17

## Working Experience

### University of Milan - Bicocca

*Research fellow*

**Milan (Italy)**

JAN.21–Present

### Catholic University of the Sacred Heart, Milan

*Consultant*

**Milan (Italy)**

OCT.20–NOV.20

I worked on a project named *Black Box and Big Data per la stima e la previsione dei sinistri* under the supervision of Prof. Diego Zappa.

### University of Milan - Bicocca

*Tutor*

**Milan (Italy)**

JUN.20–OCT.20 & JUN.21 – Present

I prepared and organized the admission tests for the Department of Economics, Management and Statistics.

### GR & Partner S.A.S

*Consultant*

**Milan (Italy)**

APR.18–OCT.18

I developed a User Interface using R and Shiny.

## PhD Thesis

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**Title:** *Statistical Models and Data Structures for Spatial Data on Road Networks*

**Supervisor:** Prof. Riccardo Borgoni and Prof. Jorge Mateu

**Summary:** The thesis summarises data structures, vital pre-processing steps, and statistical models to analyse spatial data lying on road networks using point-pattern and network-lattice approaches.

## Master Degree Thesis

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**Title:** *Previsione spaziotemporale per gli interventi in emergenza delle ambulanze nel comune di Milano*

**Supervisor:** Prof. Riccardo Borgoni

**Summary:** We developed a spatiotemporal model to predict the distribution of the emergency medical interventions in Milan.

## Visiting Periods

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- I spent seven months in Castellón de la Plana (ES), from February 2020 to June 2020 and May 2021 to July 2021, working with Prof. Jorge Mateu on statistical models for events on road networks.
- I stayed in Leeds (UK) for three months, from September 2019 to November 2019, working with Prof. Robin Lovelace on R packages and classes for road networks. Final presentation.

## Publications

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1. **Gilardi, A.**, Borgoni, R., Mateu, J., A non-separable first-order spatio-temporal intensity for events on linear networks: an application to ambulance interventions. Under review. Preprint.
2. **Gilardi, A.**, Mateu, J., Borgoni, R., Lovelace, R., Multivariate hierarchical analysis of car crashes data considering a spatial network lattice. Under review. Preprint.
3. **Gilardi, A.**, Lovelace, R., Padgham, M. Data structures and methods for reproducible street network analysis: overview and implementations in R. Under review. Preprint.
4. Borgoni, R., **Gilardi, A.**, & Zappa, D. (2020). Assessing the Risk of Car Crashes in Road Networks. Social Indicators Research, 1-19.
5. Borgoni, R., **Gilardi, A.**, & Zappa, D. (2020). Spatial modelling of driver crash risk using georeferenced data. In NESPUTT 2019-New Economic & Statistical Perspectives on Urban & Territorial Themes.
6. **Gilardi, A.**, Borgoni, R., & Zappa, D. (2020). Assessing the Risk of Car Accidents in Road Networks. In NESPUTT 2019-New Economic & Statistical Perspectives on Urban & Territorial Themes.
7. **Gilardi, A.**, Borgoni, R., & Zappa, D. (2019). Spatial Logistic Regression for Events Lying on a Network: Car Crashes in Milan. In Smart Statistics for smart applications (pp. 1165-1170). Pearson Italia.
8. **Gilardi, A.**, Borgoni, R., Pagliosa, A., & Bonora, R. (2018). Spatiotemporal Prevision for Emergency Medical System Events in Milan. In Scientific meeting of the Italian Statistical Society.

## Summer School and Workshops

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- Tidyverse developer day, Tolouse (FR), July 2019.
- Robust Statistics : Foundations and Recent Developments, University of Milano-Bicocca, March 2019
- CLADAG, Summer School on Clustering and Classification, University of Catania - May 2018

## Conferences

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**Invited**.....

- OpenGeoHub Summer School 2021, 1-3 September 2021, Online Event

## Contributed

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- UseR! 2021 Meeting, 5-9 July 2021, Online event.
- 50th meeting of the Italian Statistical Society, 21-25 June 2021, Online event.
- Nesputt 2019: New Economic & Statistical Perspective, 21-22 November 2019, Milan (Italy).
- Meeting of the Italian Statistical Society, 18-21 June 2019, Milan (Italy).
- 49th Meeting of the Italian Statistical Society, 20-22 June 2018, Palermo (Italy).

## Attended

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- OpenGeoHub 2020, 16-23 August 2020, Wageningen (Netherlands)
- e-Rum 2020: European R User Meeting, 17-20 June 2020, Online event.
- UseR! 2019 Meeting, 9-12 July 2019, Toulouse (France).
- Stataalk, March 29th, 2019, University of Bologna (Italy).
- Stataalk, November 17th, 2017, University of Padova (Italy).

## Organized Conferences

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- I organized an online Webinar and Hackathon related to the R package [sfnetworks](#) as official satellite events of the e-Rum 2020 Conference. Materials, slides and recordings.
- I was a member of the Local Organizing Committee of Nesputt 2019: New Economic & Statistical Perspective, Milan (Italy).

## Grants

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- Tidy Spatial Networks in R funded by the R Consortium. 9000\$

## Awards

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- Scholarship for the OpenGeoHub 2020 - Summer School. Project: *plotKML functionality to support sf and stars objects*. Final presentation.
- SIS award for the best poster at the SIS-2019 conference.
- Young-SIS award for the best poster at the SIS-2018 conference.

## Community activities

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### Referee service

Spatial Statistics; rOpenSci

### Affiliations

Società Italiana di Statistica (SIS); rOpenSci

## Software

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I am a proficient R user, with a particular interest in the `r-spatial` world and the tidyverse environment. I am the author of two R packages, namely [osmextract](#) (reviewed by rOpenSci foundation and now on CRAN) and [sfnetworks](#) (also on CRAN). I contributed to several R packages like `ggplot2`, `recipes`, `sf`, `stplanr` and `osmdata`. I attended the *Tidyverse Developer Day* in Toulouse during the UseR! 2019 conference.

I can write scientific documents and presentations using  $\text{\LaTeX}$  and I have a basic knowledge of SQLite, GDAL, POSTGIS, SAS, Python, and STATA

## Badges

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**SAS:** SAS Certified Base Programmer for SAS 9

**SAS:** SAS Certified Predictive Modeler Using SAS Enterprise Miner 7

## Additional Information

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**Associazioni:** Volunteer at Volontari del Soccorso di Calolziocorte from July 2016

## Notes

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Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".