




Niccolò Cao — Curriculum Vitae

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 niccolocao

Education

University of Bologna, Department of Statistical Sciences "Paolo Fortunati"

PhD in Statistics (SECS-S/01)

2023–present

Project: "Modern statistical learning for complex data in health-related sciences"

University of Padova, FISPPA

M.Sc. in Psychology (LM-51)

2020–2022

Final grade: 110/110 cum Laude

Thesis: "Mixture CFA model for heterogeneous samples: A simulation study"

Advisor: prof. Antonio Calcagni

University of Padova, DPSS

B.Sc. in Psychology (L-24)

2017–2020

Final grade: 110/110 cum Laude

Thesis: "Latent Dirichlet Allocation based methods for applied text-mining in psychology"

Advisor: prof. Antonio Calcagni

Teaching Experiences

University of Padova, DPSS

Teaching assistantship (20 hours)

2023

- Seminars (e.g., Cross-Validation, Shrinkage methods, Random Forest)
- Laboratories in R

Research Experiences

University of Padova, DPSS

Undergraduate Internship

2021–2022

- Development of a statistical model to analyze decision uncertainty in rating data with R software applications
- Duration: 6 months
- Supervisor: prof. Antonio Calcagni

Publications

Journal articles:

- Cao, N., & Calcagni, A. (2022). **Jointly modeling rating responses and times with fuzzy numbers: An application to psychometric data.** *Mathematics*, 10(7), 1025, 1-11. <https://doi.org/10.3390/math10071025>.
- Calcagni, A., Cao, N., Rubaltelli, E., & Lombardi, L. (2022). **A psychometric modeling approach to fuzzy rating data.** *Fuzzy Sets and Systems*, 447, 76-99. <https://doi.org/10.1016/j.fss.2022.01.008>.

Conference proceedings:

- Cao, N., Calcagni, A., & Finos, L. (2022). **Twitting about COVID-19: An application of Structural Topic Models to a sample of Italian tweets**. Lombardo, R., Camminatiello, I., Simonacci, V. (eds) *10th International Conference IES 2022 Innovation and Society 5.0: Statistical and Economic Methodologies for Quality Assessment*. PKE, 549-554. ISBN: 9788894593365.

Communications in Scientific conferences and meetings

Cao, N., Calcagni, A. & Finos, L. **Mixing CFA and EFA to handle data heterogeneity**. *51st Meeting of the European Mathematical Psychology Group (EMPG)*, Rovereto, September 5-7 2022.

Cao, N., & Calcagni, A. **Fuzzy Regression Analysis of fIRT-Tree-based data**. *4th AFU International Conference TASK4-21*, Dubai, May 19-20 2021.

Additional courses

<i>Julia High Performance (CINECA)</i>	2023
<i>Python for Scientific Computing (CINECA)</i>	2023
<i>Introduction to Fortran for Scientific Computing (CINECA)</i>	2022

Languages

Italian: Mother tongue

English: Proficiency

Programming languages

Programming:: R, Julia, Fortran, Mathematica, Python, bash.

Others:: \LaTeX , Markdown.

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Bologna, 9 December 2023