

# CARLO CAVICCHIA

## PERSONAL DATA

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## CURRENT POSITION

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**Assistant Professor of Statistics**

*May 2020 - Present*

Econometric Institute, Erasmus School of Economics, Erasmus Rotterdam University, Rotterdam

## EDUCATION

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**Dutch University Teaching Qualification UTQ-BKO**

*January 2022 - June 2022*

Risbo, Erasmus University Rotterdam, Rotterdam

**Ph.D. in Statistics**

*November 2016 - February 2020*

Department of Statistical Sciences, University of Rome La Sapienza, Rome

Thesis title: *Hierarchical latent variable models for dimensionality reduction: an application on composite indicators*; Supervisor: Prof. M. Vichi

**MSc Degree in Statistics and Decision Science**

*November 2013 - January 2016*

University of Rome La Sapienza, Rome

110/110 with honors

**BSc Degree in Statistics**

*November 2009 - July 2013*

University of Rome La Sapienza, Rome

105/110

## RESEARCH AND TEACHING INTERESTS

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Hierarchical Models

Non-parametric Statistics

Data Science

Latent Variable Models

Composite Indicators

Unsupervised Classification

## RESEARCH EXPERIENCES

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**Research visit**

*November 2019 – December 2019*

Econometric Institute, Erasmus School of Economics, Erasmus Rotterdam University, Rotterdam

Supervisor: Prof. P.J.F. Groenen

**Research fellowship**

*May 2019 – April 2020*

Department of Law and Economics, University of Rome UnitelmaSapienza, Rome

Supervisor: Prof. P. Sarnacchiaro

**Researcher on a project**

*March 2016 – November 2018*

Department of Statistical Sciences, University of Rome La Sapienza, Rome

Title: *Development of a procedure to detect and manage outliers for big data*

Supervisor: Prof. M. Vichi and ENEA

**Researcher on a project**

*March 2016 – January 2017*

Department of Statistical Sciences, University of Rome La Sapienza, Rome

Title: *Construction of a hierarchical non-negative and disjoint composite indicator for a set of quantitative variables*

Supervisor: Prof. M. Vichi

## AWARDS AND GRANTS

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**Research Grant for Junior Researchers**

*August 2017*

University of Rome La Sapienza, Rome

**Best report of Stats under the stars<sup>3</sup>**

*June 2017*

Italian Statistical Society (SIS)

## FEATURED PUBLICATIONS

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Cavicchia, C., M. Vichi, and G. Zaccaria: *Hierarchical Disjoint Principal Component Analysis*. In: *Advances in Statistical Analysis* (2022). Accepted.

Cavicchia, C., M. Vichi, and G. Zaccaria: *Gaussian Mixture Model with an extended ultrametric covariance structure*. In: *Advances in Data Analysis and Classification* 16.2 (2022), pp. 399–427. DOI: [10.1007/s11634-021-00488-x](https://doi.org/10.1007/s11634-021-00488-x).

Cavicchia, C. and M. Vichi: *Second-order disjoint factor analysis*. In: *Psychometrika* 87.1 (2022), pp. 289–309. DOI: [10.1007/s11336-021-09799-6](https://doi.org/10.1007/s11336-021-09799-6).

Cavicchia, C. and P. Sarnacchiaro: *A multi-group higher-order factor analysis for studying the gender-effect in teacher job satisfaction*. In: *METRON* 80.1 (2022), pp. 23–38. DOI: [10.1007/s40300-021-00204-x](https://doi.org/10.1007/s40300-021-00204-x).

Cavicchia, C. and P. Sarnacchiaro: *The effect of a new e-tivity on students' performance and satisfaction in an online course*. In: *Statistica Applicata - Italian Journal of Applied Statistics* 33.2 (2021), pp. 163–175. DOI: [10.26398/IJAS.0033-009](https://doi.org/10.26398/IJAS.0033-009).

Cavicchia, C., P. Sarnacchiaro, and M. Vichi: *A composite indicator for the waste management in the EU via hierarchical disjoint non-negative factor analysis*. In: *Socio-Economic Planning Sciences* 73 (2021), p. 100832. DOI: [10.1016/j.seps.2020.100832](https://doi.org/10.1016/j.seps.2020.100832).

Cavicchia, C. and M. Vichi: *Statistical model-based composite indicators for tracking coherent policy conclusions*. In: *Social Indicators Research* 156.2 (2021), pp. 449–479. DOI: [10.1007/s11205-020-02318-7](https://doi.org/10.1007/s11205-020-02318-7).

Cavicchia, C., M. Vichi, and G. Zaccaria: *The ultrametric correlation matrix for modelling hierarchical latent concepts*. In: *Advances in Data Analysis and Classification* 14.4 (2020), pp. 837–853. DOI: [10.1007/s11634-020-00400-z](https://doi.org/10.1007/s11634-020-00400-z).

## INVITED TALKS AND SEMINARS

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**ISI 2023 - 64<sup>th</sup> International Statistical Institute World Statistics Congress** July 2023  
Ottawa, Canada

**CMStatistics 2022 - 15<sup>th</sup> International Conference of the ERCIM WG on Computational and Methodological Statistics** December 2022  
London, UK (Virtual)

**IFCS 2022 - 17<sup>th</sup> Conference of the IFCS** July 2022  
Porto, Portugal

**EcoSta 2022 - 5th International Conference on Econometrics and Statistics** June 2022  
Kyoto, Japan (Virtual)

**Seminar series “Introduction to Statistics”** February 2022  
Hospitality Management - Federico II University of Naples (Virtual)

**ISI 2021 - 63<sup>rd</sup> International Statistical Institute World Statistics Congress “Statistics and Data Science for a Better World”** July 2021  
Virtual conference

**EconJobMarket** December 2019  
Rotterdam, Netherlands

**ASA 2019 Scientific Conference on Statistics for Health and Well-Being** September 2019  
Brescia, Italy

<b>12<sup>th</sup> Scientific Meeting of Classification and Data Analysis Group</b> Cassino, Italy	<i>September 2019</i>
<b>49<sup>th</sup> Scientific meeting of the Italian Statistical Society</b> Palermo, Italy	<i>June 2018</i>
<b>Workshop: Selection and Synthesis of Indicators for Sustainable Development Goals: Methodologies and Applications</b> Rome, Italy	<i>October 2017</i>

## SUPERVISION

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<b>MSc theses (8)</b> Erasmus School of Economics, Erasmus University Rotterdam, Rotterdam MSc Econometrics and Management Science, Business Analytics and Quantitative Marketing	<i>2020 - Present</i>
<b>MSc theses (6)</b> Erasmus School of Economics, Erasmus University Rotterdam, Rotterdam MSc Economics and Business, Data Science and Marketing Analytics	<i>2020 - Present</i>
<b>BSc theses (19)</b> Erasmus School of Economics, Erasmus University Rotterdam, Rotterdam BSc Econometrics and Operational Research	<i>2020 - Present</i>

## TEACHING AS COORDINATOR OR LECTURER

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<b>Applied Statistics 2</b> Erasmus School of Economics, Erasmus University Rotterdam, Rotterdam BSc Economics and Business Economics	<i>2022 - Present</i>
<b>Toegepaste Statistiek 2</b> Erasmus School of Economics, Erasmus University Rotterdam, Rotterdam BSc Economics and Business Economics	<i>2022 - Present</i>
<b>Seminar Case Studies in Business Analytics and Quantitative Marketing</b> Erasmus School of Economics, Erasmus University Rotterdam, Rotterdam MSc Econometrics and Management Science, Business Analytics and Quantitative Marketing	<i>2022</i>
<b>Multivariate Statistics</b> Department of Law and Economics, University of Rome UnitelmaSapienza, Rome I level master: "Analysis and modelling of data and processes: methods and models"	<i>2022</i>
<b>Seminar in Business Analytics and Quantitative Marketing</b> Erasmus School of Economics, Erasmus University Rotterdam, Rotterdam BSc Econometrics and Operational Research	<i>2021</i>
<b>Seminar Data Science for Marketing Analytics</b> Erasmus School of Economics, Erasmus University Rotterdam, Rotterdam MSc Economics and Business, Data Science and Marketing Analytics	<i>2020 - 2022</i>
<b>Statistical Methods for Composite Indicators Construction</b> Department of Law and Economics, University of Rome UnitelmaSapienza, Rome II level master: "Quantitative methods and models for decision support"	<i>2020 - 2021</i>
<b>R Lab - Statistics</b> Department of Law and Economics, University of Rome UnitelmaSapienza, Rome II level master: "Quantitative methods and models for decision support"	<i>2020 - 2021</i>
<b>Statistics</b> School of Economics, Tor Vergata University of Rome, Rome Master of Science in European Economy and Business Law	<i>2019</i>

## ACADEMIC AND EDITORIAL SERVICES

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Member of the scientific programme committee of CLADAG 2023	2023
Organizer of an invited session of CMStatistics 2022	2022
Organizer of an invited session of ECDA 2022	2022
Member of the scientific programme committee of HackTheGene 2022	2022
Co-guest-editor of a special issue of METRON	2022
Co-editor of "Book of Short Papers of SIS 2022"	2022
National coordinator of y-SIS	2022
Member of the scientific programme committee of SIS 2022	2022
Member of the scientific programme committee of IES 2022	2022
Member of the national board of y-SIS	2021 - 2022
Member of the organizing committee of DSSV-ECDA 2021	2021
Member of the organizing committee of DSSV 2020	2020
Member of the admission committee of II level master: "Quantitative methods and models for decision support", University of Rome UnitelmaSapienza	2020
Organizer of an invited session of SIS 2020	2020
Reviewer for a number of scientific journals in Statistics	2018 - Present
– in alphabetic order – Advances in Data Analysis and Classification; Annals of Operations Research; Computational Statistics; Journal of Data Science, Statistics and Visualisation; Journal of Statistical Computation and Simulation; METRON; PLOS ONE; SAGE Open; SN Business & Economics	

## WORK EXPERIENCES

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<b>Consultant as Lead Statistician</b>	October - December 2019
Project: <i>Survey in Zanzibar on community socio-economic conditions</i> , ARS Progetti S.P.A., Rome	
<b>Consultant as Supervisor</b>	July - October 2019
Project: <i>Survey in Zanzibar on environmental cleanliness, public service perception and tourism competitiveness</i> , NGO Fondazione ACRA, Rome	
<b>Consultant as Lead Statistician</b>	June - August 2018
Project: <i>Survey within the framework of the "Consultancy Services to support community engagement and awareness within the Urban Municipal Council"</i> , NGO Fondazione ACRA, Zanzibar, Tanzania	

## LANGUAGES

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<b>Italian</b>	Native language
<b>English</b>	Speaking: C1 Writing: C2

## EXTRA-CURRICULAR

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- President and Co-Founder "ASD Valcanneto Futsal" (Cerveteri, 2018 - 2021)
- Attended the 1<sup>st</sup> International Summer School on Classification and Data Analysis (Rimini, 2017)
- Attended a Erasmus semester at University College of Dublin (Dublin, 2012)