

# 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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Vichi, M., C. Cavicchia, and P.J.F. Groenen: *Hierarchical Means Clustering*. In: *Journal of Classification* (Accepted, 2022+).

Cavicchia, C., M. Vichi, and G. Zaccaria: *Hierarchical Disjoint Principal Component Analysis*. In: *Advances in Statistical Analysis* (2022). DOI: [10.1007/s10182-022-00458-4](https://doi.org/10.1007/s10182-022-00458-4).

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

<b>ASA 2019 Scientific Conference on Statistics for Health and Well-Being</b> Brescia, Italy	<i>September 2019</i>
<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
Member of the scientific programme committee of IES 2023	2023
Organizer of an invited session of CMStatistics 2022	2022
Co-organizer for the Econometrics internal seminars at Econometric Institute, Erasmus University Rotterdam	2022 - Present
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
Member of the committee of the prize “Premio TStat Training”	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; BMC Psychology; 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)