

CESARE MIGLIOLI — CV

CEM347@pitt.edu ; ORCID, Google Scholar, GitHub

PROFESSIONAL EXPERIENCE

University of Pittsburgh, Postdoctoral Research Associate	09/2025 – ongoing
Purdue University, Postdoctoral Research Associate	09/2024 – 08/2025
University of Geneva, Teaching Assistant	09/2016 – 02/2024
Max Planck Institute for Human Development, Visiting Researcher	05/2015 – 08/2015
B-Fluid - Omnicom Group, Account Manager	09/2010 – 09/2014

EDUCATION

University of Geneva, Ph.D. in Statistics	09/2018 – 02/2024
University of Geneva, MSc in Statistics (GPA 5.19/6, Highest GPA Prize)	09/2015 – 02/2018
Università Bocconi, Bachelor of Economics and Social Sciences (90/110)	09/2006 – 04/2015

PERSONAL SKILLS

Languages: Italian (native), English (fluent), French (fluent).
Technical skills: R, Git, LaTeX, MATLAB.

RESEARCH INTERESTS

Keywords: computational statistics, differential privacy, graphical models, network analysis, nonparametric statistics, random graphs, statistics in life sciences.

WORKING PAPERS

1. Miglioli, C. and Della Rosa, P.A. and Victoria-Feser, M.P and Guerrier, S. (2023). **Two-sample permutation tests for graphical models and random graphs, with applications to brain connectivity**. In preparation for *JASA, Applications and Case Studies*.
2. Molinari, R. and Bakalli, G. and Guerrier, S. and Miglioli, C. and Orso, S. and Karemera, M. and Scaillet, O. (2020). **SWAG: A Wrapper Method for Sparse Learning**. *Manuscript*. <https://arxiv.org/abs/2006.12837>.

PUBLICATIONS AND CONFERENCE PROCEEDINGS

1. Miglioli, C. and Canini, M. and Vignotto, E. and Pecco, N. and Pozzoni, M. and Victoria-Feser, M.P. and Guerrier, S. and Candiani, M. and Falini, A. and Baldoli, C. and Cavoretto, P.I. and Della Rosa, P.A. (2024). **The Maternal-Fetal Neurodevelopmental Groundings of Preterm Birth Risk**. *Heliyon* 10(7):e28825 <https://doi.org/10.1016/j.heliyon.2024.e28825>.
2. Miglioli, C. (2024). **Contributions to the Statistical Analysis of Networks and Graphs**. *Ph.D. Thesis*. <https://doi.org/10.13097/archive-ouverte/unige:175512>.
3. Caglioni, M. and Cantatore, F. and Miglioli, C. and Dumont, R. and Rinaldi, S. and Valsecchi, L. and Salvatore, S. (2023). **Effects of flexible sacrum position at birth on maternal and neonatal outcomes: a retrospective cohort study**. *International Journal of Gynecology & Obstetrics* 163(3):911-919. <https://doi.org/10.1002/ijgo.14897>.

4. Origoni, M. and Cantatore, F. and Sopracordevole, F. and Clemente, N. and Spinillo, A. and Gardella, B. and De Vincenzo, R. and Ricci, C. and Landoni, F. and Di Meo, M.L. and Ciavattini, A. and Di Giuseppe, J. and Preti, E. and Iacobone, A.D. and Carriero, C. and Dellino, M. and Capodanno, M. and Perino, A. and Miglioli, C. and Insolia, L. and Barbero, M. and Candiani, M. (2023). **Colposcopy Accuracy and Diagnostic Performance: A Quality Control and Quality Assurance Survey in Italian Tertiary-Level Teaching and Academic Institutions-The Italian Society of Colposcopy and Cervico-Vaginal Pathology (SICPCV)**. *Diagnostics* 13(11):1906. <https://doi.org/10.3390/diagnostics13111906>.
5. Besta, M. and Miglioli, C. and Labini, P.S. and Tětek, J. and Iff, P. and Kanakagiri, R. and Ashkboos, S. and Janda, K. and Podstawski, M. and Kwasniewski, G. and Gleinig, N. and Vella, F. and Mutlu, O. and Hoefer, T. (2022). **ProbGraph: High-Performance and High-Accuracy Graph Mining with Probabilistic Set Representations**. *IEEE Press, Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis, Dallas, TX, US, pp. 600-616*. <https://dl.acm.org/doi/10.5555/3571885.3571942>. Winner of the [Best Paper SC award 2022](#).
6. Besta, M. and Grob, R. and Miglioli, C. and Bernold, N. and Kwasniewski, G. and Gjini, G. and Kanakagiri, R. and Ashkboos, S. and Gianinazzi, L. and Dryden, N. and Hoefer, T. (2022). **Motif Prediction with Graph Neural Networks**. *ACM, Proceedings of the 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, Washington DC, USA, pp. 35-45*. <https://dl.acm.org/doi/abs/10.1145/3534678.3539343>.
7. Miglioli, C. and Bakalli, G. and Orso, S. and Karemera, M. and Molinari, R. and Guerrier, S. and Mili, N. (2022). **Evidence of antagonistic predictive effects of miRNAs in breast cancer cohorts through data-driven networks**. *Scientific Reports* 12, 5166. <https://doi.org/10.1038/s41598-022-08737-5>.
8. Della Rosa, P.A. and Miglioli, C. and Caglioni, M. and Tiberio, F. and Mosser, K.H.H. and Vignotto, E. and Canini, M. and Baldoli, C. and Falini, A. and Candiani, M. and Cavoretto, P.I. (2021). **A hierarchical procedure to select intrauterine and extrauterine factors for methodological validation of preterm birth risk estimation**. *BMC Pregnancy Childbirth* 21, 306. <https://doi.org/10.1186/s12884-021-03654-3>.

AWARDS

[SC22 Best Paper](#) (2022).

[Pictet prize](#) for the highest GPA of the MSc in Statistics at the University of Geneva (2018).

RESEARCH PRESENTATIONS

<i>CMStatistics 2023</i> at HTW Berlin, University of Applied Sciences	16/12/2023 – 18/12/2023
<i>IMACS 2023</i> at La Sapienza University in Rome	11/09/2023 – 15/09/2023
<i>Data Analytics Lab Workshop</i> in Ovronnaz, Switzerland	27/05/2023 – 30/05/2023
<i>Research seminar</i> at ETH Zurich, Computer Science Department	23/03/2023
<i>Statistical Learning Workshop</i> at the University of Geneva	18/09/2020

TEACHING

Teaching assistant for: Advanced Topics in Survey Methods (2020), Business Analytics (2024), Forecasting with Applications in Business (2024), Introduction to Statistics (2019, 2021, 2022, 2023), Machine Learning (2020), Mathematics I (2018, 2019, 2023), Mathematics II (2020), Model

Selection in High Dimensions (2018, 2019, 2022), Probability I (2017), Sampling Techniques (2021, 2022), Statistics I (2017, 2018) at the University of Geneva.

CO-SUPERVISED MASTER'S THESES

1. Kenneth Ruhee, MSc in Statistics at the University of Geneva (2022). *Predictive modeling of recurrence of cervical intraepithelial neoplasia*.
2. Sutter Jean, MSc in Statistics at the University of Geneva (2020). *Shrinkage Methods Comparison in Bioprocess Optimization Context*.
3. Lee Minyoung, MSc in Statistics at the University of Geneva (2019). *Extended Covariance Penalty Criteria for Model Selection in Logistic Regression*.
4. Galvan Cecilia, MSc in Statistics at the University of Geneva (2019). *Model Selection for Multinomial Logit Regression Using a Decomposition Strategy*.

SOFTWARE DEVELOPMENT

E-book for the class *Model Selection in High Dimensions* at the University of Geneva.

swag - R package: trains a meta-learning procedure that combines screening and wrapper methods to find a set of extremely low-dimensional attribute combinations.

More information at: <https://github.com/SMAC-Group/swag>.

REFERENCES

1. **Prof. Jordan Awan**, University of Pittsburgh, JAA557@pitt.edu
2. **Prof. Maria-Pia Victoria-Feser**, University of Bologna, maria.victoriafeser@unibo.it
3. **Prof. Stephane Guerrier**, University of Geneva, stephane.guerrier@unige.ch
4. **Dr. Pasquale Della Rosa**, San Raffaele Hospital and University, dellarosa.pasquale@hsr.it
5. **Dr. Maciej Besta**, ETH Zurich SPC Lab, maciej.best@inf.ethz.ch
6. **Prof. Sebastian Engelke**, University of Geneva, sebastian.engelke@unige.ch
7. **Prof. Francesca Chiaromonte**, Penn State University, fxc11@psu.edu
8. **Prof. Roberto Molinari**, Auburn University, robmolinari@auburn.edu