




Alessandro Casa


CONTACT INFORMATION

 The Insight Centre for Data Analytics, University College Dublin
O'Brien Centre for Science, Science Centre East
Belfield, Dublin 4, Ireland

 alessandro.casa@ucd.ie

 alessandrocasa.github.io

 a.casa91

 AlessandroCasa

RESEARCH INTERESTS

Density-based clustering; Nonparametric statistics; Density estimation; Co-clustering; Longitudinal data; Latent variable models; High-dimensional regression; Dimensionality reduction techniques.

CURRENT POSITION

Postdoctoral research fellow since Nov. 2019
School of Mathematics and Statistics, University College Dublin

EDUCATION

Ph.D. in Statistics Oct. 2016 - Feb. 2020

University of Padova

Thesis: *Climbing modes and exploring mixtures: a journey in density-based clustering*

Supervisor: Prof. G. Menardi and Prof. J.E.Chacòn (co-supervisor)

Master degree in Statistical Sciences Oct. 2014 - Sept. 2016

University of Padova

Final grade: 110/110 cum laude

Thesis: *Semi-supervised detection of collective anomalies using non-parametric methods with an application to particle physics* (written in italian)

Supervisor: Prof. G. Menardi

Bachelor degree in Statistics, Economics and Finance Oct. 2011 - July 2014

University of Padova

Final grade: 110/110 cum laude

Thesis: *Dimension reduction for model-based clustering: a simulation study and an application to genetic data* (written in italian)

Supervisor: Prof. G. Menardi

PUBLICATIONS

Working paper

- Casa A., Bouveyron C., Erosheva E. & Menardi G. (2020+)
Co-clustering of longitudinal data via shape invariant model.

Submitted preprints

- Casa A., Scrucca L. & Menardi G. (2019+)
How bettering the best? Answers via blending models and cluster formulations in density-based clustering
Preprint available at: <https://arxiv.org/pdf/1911.06726.pdf>
- Casa A. & Menardi, G. (2019+)
Nonparametric semi-supervised classification with application to signal detection in high energy physics.
Preprint available at: <https://arxiv.org/pdf/1809.02977.pdf>

Article in refereed journals

- Casa A., Chacòn J.E. & Menardi, G. (2020)
Modal clustering asymptotics with applications to bandwidth selection.
Electronic Journal of Statistics (In press)
Preprint available at: <https://arxiv.org/pdf/1901.07300.pdf>

- Casa A. (2018)
On the choice of the weight function for the integrated likelihood.
SM Journal of Biometrics & Biostatistics, 3(3), 1033.

Book chapters

- Cabassi A., Casa A., Farcomeni A., Fontana M., Russo, M. (2018).
Three testing perspectives on connectome data.
Studies in Neural Data Science, Springer Volume 'Proceedings in Mathematics & Statistics', ISBN-9783030000394.

Conferences and Workshop

- Casa A., Chacòn J.E. & Menardi G. (2019)
Asymptotics for bandwidth selection in nonparametric clustering.
Cladag 2019 - Book of short papers.
- Casa A. & Menardi G. (2019)
Nonparametric semisupervised classification and variable selection for new physics searches.
EMS 2019 - Program and Book of Abstracts.
- Pascali G., Casa A. & Menardi G. (2019)
Co-clustering TripAdvisor data for personalized recommendations.
Book of short Papers SIS 2019. ISBN 978889191510.
- Casa A., Scrucca L. & Menardi G. (2018)
Averaging via stacking in model-based clustering.
Book of abstracts of the 4th International Workshop on Model-Based Clustering and Classification (MBC2)
- Casa A., Scrucca L. & Menardi G. (2018)
On the selection uncertainty in parametric clustering.
Book of abstracts of the European Conference on Data Analysis (ECDA).
- Casa A., Chacòn J.E. & Menardi G. (2018)
On the choice of an appropriate bandwidth for modal clustering.
Book of short Papers SIS 2018. ISBN-9788891910233.
- Casa A., Chacòn J.E. & Menardi G. (2018)
Clustering-oriented selection of the amount of smoothing in kernel density estimation.
Book of abstracts - ISNPS 2018. ISBN: 978-88-61970- 00-7.
- Casa A. & Menardi G. (2017)
Signal detection in high energy physics via a semisupervised nonparametric approach.
Proceedings of the Conference of the Italian Statistical Society "Statistics and Data Sciences: new challenges, new generations". ISBN: 978-88-6453-521-0.
- Casa A. & Menardi G. (2017)
Nonparametric semi-supervised classification with application to signal detection in high energy physics.
Books of abstracts of the International Federation of Classification Societies (IFCS).

VISITING PERIODS

University of Cote d'Azur Laboratory J.A. Dieudonné Visiting scholar under the supervision of Prof. C. Bouveyron	Oct. 2018 - Dec. 2018
University of Perugia Department of Economics Visiting scholar under the supervision of Prof. L. Scrucca	Apr. 2018
University of Cambridge Department of Pure mathematics and Mathematical Sciences Visiting scholar under the supervision of Prof. R.Samworth	Oct. 2017 - Dec. 2017

CONFERENCES PRESENTATIONS	• Working Group on Statistical Learning Dublin [Invited talk]	Feb. 2020
	• CLADAG - Classification and Data Analysis Group Cassino [Invited talk]	Sept. 2019
	• EMS - European Meeting of Statisticians Palermo [Invited talk]	Jul. 2019
	• WG19 - Working Group on Model-Based clustering Wien [Poster]	Jul. 2019
	• ASPD - Workshop on Advanced Statistics for Physics Discovery Padova [Poster]	Sept. 2018
	• MBC2 - Workshop on Model-Based Clustering and Classification Catania [Poster]	Sept. 2018
	• ECDA - European Conference on Data Analysis Paderborn [Contributed talk]	Jul. 2018
	• SIS - 49th Scientific meeting of the Italian Statistical Society Palermo [Contributed talk]	Jun. 2018
	• Start Up Research - Follow up presentation (joint with A.Cabassi) Palermo [Invited talk]	Jun. 2018
	• ISNPS - 4th Conference of the International Society for Nonparametric Statistics Salerno [Contributed talk]	Jun. 2018
	• SIS - Intermediate conference of the Italian Statistical Society Florence [Contributed talk]	Jun. 2017

MISCELLANEA

Supervising Experience

- Co-supervisor of the MSc Thesis *A co-clustering based recommendation system with an application to TripAdvisor data* (in italian). Academic year 2018/2019.

Teaching Experience

University College Dublin

- Instructor for the module STAT20060 - Statistics & Probability (Level 2, University College Dublin, Academic year 2019/2020)
- Tutor for the module STAT30270/40590 - Statistical Machine Learning (Level 3, University College Dublin, Academic year 2019/2020)
- Tutor for the module STAT20060 - Statistics & Probability (Level 2, University College Dublin, Academic year 2019/2020).

University of Padova

- *Bike sharing in Paris: a case study* (in italian). Specialist lecture during the class Statistica Iterazione (Master degree, University of Padova, Academic year 2018/19).

Editorial Activities

- Referee for: Computational Statistics and Data Analysis, Knowledge-based Systems, Social Indicators Research, WIREs Computational Statistics.

Contests

- Stats Under the Stars 3
Organizers: University of Florence, Italian Statistical Society
Jun. 2017
- Stars Under the Stars 1
Organizers: University of Padova, Italian Statistical Society
Sept. 2015
- Data Science Game
Organizers: Google, Capgemini
Jun. 2015

Others

- VistaMilk IR Meeting 2019-2021
Organizer of the VistaMilk IR monthly meeting where, within the VistaMilk project, updates on the projects related to Infra-Red technology are shared and discussed.
- Start Up Research - Follow up Jun. 2018
Follow up meeting where the research groups present and discuss the scientific output of their works after one year of research.
- Start Up research Jun. 2017
Meeting where small research groups of young scholars, advised by senior researchers are asked to develop innovative methods and models to analyze a common dataset.

LANGUAGES

Italian: Mothertongue
English: Fluent

COMPUTER SKILLS

O.S. and general applications: Mac OS, Microsoft Windows, Linux, \LaTeX , OpenOffice, Microsoft Office tools
Statistical Software and programming: R (advanced), SQL, Stata, SAS, C