europass Curriculum vitae

PERSONAL INFORMATION

Mohammed Es-salih Benjrada

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Date of birth 30 November 1993 | Nationality Algerian

WORK EXPERIENCE

February 2024 – February 2025

Postdoctoral Researcher

Università degli Studi di Bergamo, Department of Economics

Via Gianbattista Moroni, 255, 24127 Bergamo, Italy

- Conducted research on non-parametric tests in ordering data and non-parametric inference.
- Developed non-parametric tests and shape-constrained estimation methods for deconvolution problems.
- Implemented bootstrap tests for statistical analysis.

December 2021 – January 2024

Research and Teaching Assistant

Higher National School of Biotechnology, Constantine, Algeria

- Taught and evaluated students in descriptive statistics.
- Conducted research in non-parametric statistics and inverse problems.

EDUCATION AND TRAINING

2017–2021

PhD in Statistics

ISCED 6

MSTD Laboratory, University of Science and Technology Houari Boumediene, Algiers, Algeria

Thesis: *Hazard Function from Contaminating Observations*. [benjrada_phd]

2015–2017

Master's Degree in Applied Probability and Statistics: Data Analysis

MSTD Laboratory, University of Science and Technology Houari Boumediene, Algiers, Algeria

2012–2015

Bachelor's Degree in Algebra and Cryptography

MSTD Laboratory, University of Science and Technology Houari Boumediene, Algiers, Algeria

PROJECTS AND ACCOMPLISHMENTS

Projects

- **Analysis of River Flow Data for Extreme Event Prediction:**
  - Applied statistical methods to analyze annual flow data of the Weldon River at Mill Grove, Missouri.
  - Investigated whether the underlying distribution is heavy-tailed, which is critical for predicting extreme events such as floods.
  - Submitted the findings to an international journal for publication.
- **Modeling the Impact of Attendance on Academic Performance:**
  - Conducted a case study analyzing the relationship between student attendance and academic performance using Algerian university data.
  - Developed predictive models to estimate student marks based on attendance levels.
  - Submitted the findings to an international journal for publication.
- **Modeling and Predicting Diabetic Events Using the Tobit Model:**
  - Designed and implemented a Tobit model to predict diabetic events using Algerian health data.
  - Completed as part of my Master's thesis.
- **Estimating True Pregnancy Length Using Deconvolution:**
  - Applied deconvolution techniques to estimate the true length of pregnancy from U.S. health data.
  - Results accepted for publication in *Communications in Statistics - Computation and Methodology*.
- **R for Data Science:**
  - Completed all exercises and examples from the book to strengthen data science skills and practical knowledge.
- **Hands-On Programming with R:**
  - Worked through all exercises and examples to enhance programming proficiency and problem-solving skills in R.

Accomplishments

- **Understanding Artificial Intelligence:** Completed DataCamp course and obtained certification.
- **Introduction to SQL:** Completed DataCamp course and obtained certification.

PERSONAL SKILLS

Mother tongue Arabic

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	B2	B2	C1
French	C1	B2	B2	B1	B1
Italian	B2	A2	B2	A1	A2

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
Common European Framework of Reference for Languages

Organizational / Managerial Skills

- Member of the organizing committee for the international conference *Stochastic and Statistical Modeling (MSS 2019)*, University of Science and Technology Houari Boumediene, Algiers, 24–26 November 2019.

Computer Skills

- Proficient in Data Science and Machine Learning.
- Skilled in Microsoft Office programs.

Programming Languages

- **R:**
  - Over 10 years of experience in data science, statistical modeling, and data analysis.
  - Expertise in non-parametric estimation, deconvolution problems, and advanced statistical techniques.
  - Proficient in developing reproducible workflows and creating data visualizations.
- **SQL:**
  - Skilled in querying, managing, and analyzing structured data.
  - Experienced in working with large datasets for research and analytical projects.
- **MATLAB:**
  - Proficient in simulations for non-parametric estimation and inverse problems.
  - Experienced in implementing and validating statistical models.
- **Python:**
  - Basic programming skills with a focus on data visualization and analysis.
  - Experienced in integrating Python with R and MATLAB for comprehensive insights.
- **Positron:**
  - Proficient in creating interactive and insightful data visualizations.
  - Skilled in enhancing the interpretability of complex analytical results.

PUBLICATIONS

Journal Articles

- *A New Class of Tests for Convex-Ordered Families Based on Expected Order Statistics*, Lando, T. and **Benjrada, M. E.**, *Electronic Journal of Statistics. 19(1), 2780-2802.* **SJR:** 1.321
- *Deconvolving Cumulative Density from Associated Random Processes*, **Benjrada, M. E.**, *Thailand Statistician*, **20**(2), 240–270, 2022. **SJR:** 0.248
- *Hazard Rate Estimation from Associated and Contaminated Data: Strong Uniform Consistency*, **Benjrada, M. E.** and Djeddour-Djaballah, K., *Communications in Statistics – Simulation and Computation*, 2022. doi:10.1080/03610918.2022.2155314. **SJR:** 0.430
- *Intercept-only Model under Non-normality*, Asma, Bouchafaa, Djeddour-Djaballah, K., and **Benjrada, M. E.**, *Thailand Statistician*, **22**(2), 348–362, 2024. **SJR:** 0.248

Submitted Articles

- *Asymptotic Normality for Hazard Rate Function from Associated Data Corrupted by Additive Noise*, **Benjrada, M. E.**
- *The Impact of the Presence Level on Obtained Marks: A Case Study of University Students*, **Benjrada, M. E.** and Belounissi, A.
- *Optimal Bandwidth Selection for Hazard Rate Function from Contaminated Associated Observations*, **Benjrada, M. E.**

Working Papers

- *Tests and shape-constrained estimation for convex-ordered families contaminated by measurement error*, **Benjrada, M. E.** and Tommaso Lando
- *Inference for Concave Distribution Functions under Measurement Error*, **Benjrada, M. E.** and Tommaso Lando
- *Shape-Constrained Estimation of the CDF under Convex Order from Contaminated Data: A New Class of Tests Based on Expected Order Statistics and Generalized Total Time on Test*, **Benjrada, M. E.** and Tommaso Lando
- *Bootstrap Inference under CDF Shape Constraints from Contaminated Data*, **Benjrada, M. E.**, Tommaso Lando, and Cécile Dourot

Conference Presentations

- *Cumulative Density for Associated Random Processes Contaminated by Additive Noise*, **Benjrada, M. E.** and Djaballah, K., TAMTAM 2019, Tlemcen, Algeria, 25–27 February 2019.
- *Deconvolving Hazard Function for Associated Random Processes*, **Benjrada, M. E.** and Djaballah, K., MSS 2019, Algiers, Algeria, 24–26 November 2019.
- *Hazard Rate for Mixing Processes Contaminated by Additive Noise*, **Benjrada, M. E.** and Djaballah, K., WPAM 2018, M'sila, Algeria, 24–26 November 2018.
- *Non-parametric Tests in Deconvolution*, **Benjrada, M. E.**, OSD2024, Coimbra, Portugal, 11–14 June 2024.
- *Shape-Constrained Estimation in Deconvolution Problems*, **Benjrada, M. E.**, ICSDS 2024, Nice, France, 16–19 December 2024.
- *Nonparametric Tests in Deconvolution*, **Benjrada, M. E.**, Brown Bag Seminar Series, University of Bergamo, 5 November 2024.
- *Tests and shape-constrained estimation for convex-ordered families contaminated by measurement error*, **Benjrada, M. E.**, OSD2025, Aachen, Germany, 11–14 June 2025.

July 13, 2025