

Said Maanan

Higher Institute of Nursing Professions and Health Techniques
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Education

Ph.D. in Statistics

University of Auckland

May 2015–Jun 2019

Auckland, New Zealand

Advisor: Ciprian Doru Giurcăneanu.

Dissertation title: Inferring the Conditional Independence Graph for a Multivariate Autoregressive Model via Convex Optimization.

M.Sc. in Statistics

Jiangsu University

Sep 2013–Dec 2014

Zhenjiang, Jiangsu, China

Graduated with distinction.

B.Sc. in Economics

Mohammed V University in Rabat

Sep 2008–Jun 2012

Rabat, Morocco

Graduated with distinction.

Employment

Lecturer

Higher Institute of Nursing Professions and Health Techniques

Sep 2023–Present

Al Hoceïma, Morocco

As a lecturer in statistics, I taught both biostatistics and introductory statistics to nursing students at the Guelmim and Al Hoceïma campuses. My courses cover applied methods relevant to clinical and public health research, with a focus on statistical reasoning, data interpretation, and evidence-based practice. I also supervise student research projects and contribute to academic and administrative responsibilities within the institute. From 09.2023 to 07.2025, I held formal responsibility for the Examination Office, a unit of the Academic Affairs Department. My duties included the full oversight of the final examination process.

Adjunct Lecturer

Mohamed V University, Department of Economics

Dec 2022–Aug 2023

Rabat, Morocco

As an adjunct lecturer in Probability, I brought a deep understanding of probability theory to the undergraduate economics classroom. Through clear and insightful examples, I engaged students in a comprehensive exploration of probability concepts, fostering a dynamic learning environment. In addition to teaching, I conducted research in the areas of multivariate time series and environmental science. This involved extending existing methods and applications to new data. I actively collaborated with new researchers and expanded my network in the process.

Post-Doctoral Researcher

Aalto University, Probabilistic Machine Learning Group

Mar 2019–Feb 2021

Espoo, Finland

I implemented an intelligent elevator control system using machine learning algorithms to enhance the sustainability and convenience of multi-floor buildings. The algorithm, supported by an image acquisition and processing system, considers passenger group sizes and waiting times. It employs Bayesian inference based techniques for computational efficiency, and the Expectation-Maximization algorithm for data set completeness. The project was exclusively conducted in Python and Stan, incorporating the ELFI software package for Approximate Bayesian Computation.

Graduate Research Assistant

Jul 2015–Jun 2016

University of Auckland, Department of Statistics

Auckland, New Zealand

I worked as a graduate research assistant for a collaboration project between the University of Auckland Department of Statistics and NIWA, the National Institute of Water and Atmospheric Research of New Zealand, with the objective of inferring the conditional independence graph of the relationship among air pollutants at the level of the city of Auckland. My role consisted in data cleaning and preprocessing, analyzing and interpreting the data to identify any pattern or relationship between the time series, exploratory analysis, and applying the algorithm I developed in order to identify the conditional independence graph of the multivariate time series data. I used R for data cleaning, preprocessing, visualization and exploratory analysis, while I used MATLAB in order to infer the conditional independence graph for the multivariate time series.

Research Interests

- Spatial Statistics and Econometrics
- Time Series and Graphical Models
- Robust Statistical Methods
- Multivariate Analysis
- Applications

Awards & Scholarships

University of Auckland Dept. of Statistics Doctoral Scholarship

2015–2018

University of Auckland

Chinese Government Scholarship

2013–2014

Jiangsu University

Teaching Experience

Introduction to Statistics

Spring 2024, 2025

Module: Epidemiology

ISPITS Guelmim, ISPITS Al Hoceïma

Taught the statistical component of the Epidemiology module to second-semester nursing students. The course covered foundational concepts in descriptive statistics and statistical indicators relevant to public health, including the calculation and interpretation of measures such as mean, median, etc. Emphasis was placed on data collection, graphical representation, and the statistical interpretation of health phenomena.

Biostatistics

Autumn 2023, 2024, 2025

Module: Biostatistics

ISPITS Guelmim, ISPITS Al Hoceïma

I taught a comprehensive biostatistics course to fifth semester nursing (anaesthesia) students, covering methods essential for their research, particularly for their final projects. Topics included sampling, estimation, hypothesis testing, univariate and bivariate analysis, among others. With an emphasis on practical applications, the aim was to equip students with the statistical skills for robust nursing research and confident application in their academic and professional endeavours.

Probability

Spring 2023

Economics: Semester 2

FSJES Souissi

I worked as a teaching assistant for a course in probability, devised for undergraduate business and economics students. The objective of the course is to give students a basic understanding of probability, and to introduce them to notions such as combinatorics, random variables, probability distributions, etc. The course is rudimentary and does not require any prior knowledge apart from a few notions of algebra and calculus.

Computational Mathematics

Summer 2016, 2017, 2018

MATHS 162

Computer lab coordinator for undergraduate Mathematics students; initiated students to the MATLAB programming language, and helped them write algorithms to implement numerical methods (linear algebra, partial differential equations), stochastic methods, numerical analysis.

Data Analysis

Spring 2015, 2016, 2017

STATS 208

Computer lab coordinator for undergraduate Statistics students; familiarized students to the R programming language, and helped them implement various statistical techniques such as analysis of variance, regression analysis, generalized linear model, and data visualization.

Introduction to Statistics

Fall 2015, 2016, 2017

STATS 101

Computer lab coordinator, initiated students from different majors to the use of statistical software such as SPSS, and to conduct basic statistical procedures such as estimation, statistical hypothesis testing, and exploratory data analysis.

Publications

- [6] Saïd Maanan, Azzouz Dermoune, and Ahmed El Ghini. “Multiscale Asymptotic Normality in Quantile Regression: Hilbert Matrices and Polynomial Designs”. preprint. Jan. 2026. URL: <https://hal.science/hal-04996324>.
- [5] Saïd Maanan. “Renormalized Maximum Likelihood for Spatial Lag Models”. In: *Networks and Spatial Economics* (Nov. 2025). ISSN: 1572-9427. DOI: 10.1007/s11067-025-09715-w.
- [4] Saïd Maanan, Azzouz Dermoune, and Ahmed El Ghini. “Smoothed Quantile Estimation: A Unified Framework Interpolating to the Mean”. preprint. Dec. 2025. URL: <https://hal.science/hal-05336326>.
- [3] Saïd Maanan, Bogdan Dumitrescu, and Ciprian Giurcăneanu. “Maximum Entropy Expectation-Maximization Algorithm for Fitting Latent-Variable Graphical Models to Multivariate Time Series”. In: *Entropy* 20.1 (Jan. 2018), p. 76. ISSN: 1099-4300. DOI: 10.3390/e20010076.
- [2] Saïd Maanan, Bogdan Dumitrescu, and Ciprian Doru Giurcăneanu. “Conditional independence graphs for multivariate autoregressive models by convex optimization: Efficient algorithms”. In: *Signal Processing* 133 (Apr. 2017), pp. 122–134. ISSN: 0165-1684. DOI: 10.1016/j.sigpro.2016.10.023.
- [1] Saïd Maanan, Bogdan Dumitrescu, and Ciprian Doru Giurcaneanu. “Renormalized maximum likelihood for multivariate autoregressive models”. In: *2016 24th European Signal Processing Conference (EUSIPCO)*. IEEE, Aug. 2016, pp. 150–154. DOI: 10.1109/eusipco.2016.7760228.

Thesis Supervision

Manal El Yahyaoui

Mohammed V University of Rabat, Rabat, Morocco

Thesis Title: *Financial Development and Environmental Quality Nexus in Morocco: Empirical Evidence*
(Co-Supervised with Pr Ahmed El Ghini).

PhD in Economics

2024–Present

Zakaria Haci

Mohammed V University of Rabat, Rabat, Morocco

Thesis Title: *Optimisation des Modèles du Score de Crédit : Amélioration de la Précision, de l'Équité et de l'Efficacité* (Co-Supervised with Pr Ahmed El Ghini).

Masters in Applied Economics

2023–2024

Communications

The 10th Days of Econometrics for Finance

Renormalized Maximum Likelihood for Multivariate Autoregressive Models Rabat, Morocco
April 26-28, 2023

The 19th World Conference of the Spatial Econometrics Assoc.

Renormalized Maximum Likelihood for Spatial Lag Models Rabat, Morocco
May 05-06, 2025

The 12th Days of Econometrics for Finance

Multiscale Asymptotic Normality in Quantile Regression Rabat, Morocco
May 07-08, 2025

The 14th Workshop on High Dimensional Data Analysis

Multiscale Asymptotic Normality in Quantile Regression Mount Pleasant, Mich., USA
Aug 19-22, 2025
Presented online

Organizing Committees

The 19th World Conference of the Spatial Econometrics Assoc.

Member, Organizing Committee Rabat, Morocco
May 05-06, 2025

The 12th Days of Econometrics for Finance

Member, Organizing Committee Rabat, Morocco
May 07-08, 2025

References

Ahmed El Ghini

FSJES - Souissi

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Azzouz Dermoune

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