

Ulrich D. S. Aiounou

ECONOMICS · BIG DATA, ECONOMETRICS, COMPUTER SCIENCE

Marseille, France

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Educations

PhD

AIX - MARSEILLE SCHOOL OF ECONOMICS

- Machine learning
- Advanced Econometrics
- Applied Macro-economics

Marseille, France

Oct. 2022 - Today

Master's Degree in Economics and Big Data Engineering

AIX - MARSEILLE SCHOOL OF ECONOMICS

- Research methodology
- Macro-economics
- Advanced Econometrics & Machine learning

Marseille, France

Sep 2020 - Sep 2022

Bachelor degree in Statistics Mathematic

NATIONAL SCHOOL OF APPLIED ECONOMICS AND MANAGEMENT

- Data exploration
- Probability & Statistics: descriptive and inferential
- Linear algebra, Mathematics analysis

Cotonou, Benin

Nov 2014 - Dec 2017

Associate's degree in Computer Science

HIGH SCHOOL ST. FELICITY

- Merise
- Database Management
- Programming languages

Cotonou, Benin

Nov 2015 - Nov 2016

Working papers

Improving Emerging Markets and Cryptocurrency Prediction by Integrating Sentiment Analysis and Hybrid Deep Learning Models

MACHINE LEARNING, FINANCE, MARKETS

This research aims to develop a hybrid deep learning framework combining LSTM, CNN, and Random Forest models to forecast emerging market and cryptocurrency prices. The model integrates historical financial data with sentiment indicators from social media and financial news to explore whether emotional and behavioral signals can enhance predictive accuracy in highly volatile markets.

A regime switching Gegenbauer model of unemployment rates in the G7 countries

WRITTEN WITH : GILLES DUFRÉNOT

This paper proposes an econometric model combining smooth transition model (STAR) nonlinearities and long memory dynamics captured by Gegenbauer processes to investigate the dynamics on unemployment rates in the G7 countries. We show that hysteresis, as a long-memory behavior, is not the sole property of unemployment rate series. Although this property has received a great deal of attention in the literature, we show that these series also have a strong anti-persistence component that can explain the existence of episodes of excessive volatility/variability of unemployment, thus reflecting the difficulties that governments may have in stabilizing it. We also show that another source of persistence (different from long-memory) is the local non-stationary behavior of the unemployment rates usually during the regimes of rising unemployment. This kind of persistence is a source of instability. A shock may occur, causing unemployment to evolve initially in a stable regime, then its effects can amplify as soon as the dynamics of unemployment push it into the unstable regime.

Estimation in high-dimensional linear regression: Post-Double-Autometrics as an alternative to Post-Double-Lasso

WRITTEN WITH: SULLIVAN HUÉ, SÉBASTIEN LAURENT AND EMMANUEL FLACHAIRE

Post-Double-Lasso is becoming the most popular method for estimating linear regression models with many covariates when the purpose is to obtain an accurate estimate of a parameter of interest, such as an average treatment effect. However, this method can suffer from substantial omitted variable bias in finite sample. We propose a new method called Post-Double-Autometrics, which is based on Autometrics, and show that this method outperforms Post-Double-Lasso. Its use in a standard application of economic growth sheds new light on the hypothesis of convergence from poor to rich economies.

Conferences & Seminars

French/Japanese Webinar

Online

2024

French/Japanese one-day seminar on Economics and International Finance

Aix - en Provence, France

2023

CREST PhD Seminar

CREST

Feb 27, 2025

Aix - Marseille PhD Seminar

Marseille

2022- today

Educations

Applied Mathematics

Aix-Marseille University

MASTER

2024

- Optimization
- Differential equations
- Kuhn-Tucker conditions

Econometrics

Aix-Marseille University

MASTER

2022-2024

- Probability theory
- Linear regression, hypothesis violation
- Inferential statistics

Mathematics

Aix-Marseille University

UNDERGRADUATE

2022-2025

- Functions, Function with several variables
- Optimization
- Matrices
- Taylor development

Microeconomics

Aix-Marseille University

UNDERGRADUATE

2025

- Consumer theory
- Producer theory
- Market equilibrium

IT& Data Projects

Machine learning, Information reduction

Marseille, France

PREDICTION OF POPULARITY OF AN ARTICLE

February 2022

Detection of the aorta in medical images

Marseille, France

SEMANTIC SEGMENTATION

January 2022

Le bon dej

WEBSITE TO MAKE MEET RESTAURANTS AND CUSTOMERS LIKE UBER-EATS

Test

Afripharma

WEBSITE TO MAKE MEET PHARMACIES AND CUSTOMERS THAT WANT TO BY DRUGS

Test

Work Experiences

AMSE

RESEARCH INTERSHIP IN GAME THEORY

May 2021 - Jul 2021

- Implementations of theory simulations algorithms in python
- Replication of mathematics proofs
- Graphic illustrations of found results

OSSPO International

FULLSTACK DEVELOPER AND DATA SCIENTIST

Dec 2019 - Aug 2020

- Webscraping with scrapy
- Data cleaning
- Implementation of a merchant site and a click and collect platform
- Conceptual analysis of applications before their development
- Frontend development with VueJS and NuxtJS

Atlantique Banque

DATA ANALYST

Jun 2019 - Nov 2020

- Automation of the calculation of performance indicators on Excel with VBA
- Automation of report generation in word document with VBA

IB Consulting

DATA ANALYST

Oct. 2018 - Nov 2018

All data management and manipulation within the framework of the development of the strategic plan 2019-2023 of Benin Prison Agency

Freelance Consulting

DATA ANALYST

Aug. 2018 - Oct. 2018

All data management and manipulation within the framework of the development of the strategic plan 2019-2023 of the Ministry of Energy of Benin

Skills

Programming	Python, NodeJs/Javascript, C/C++, SQL, Java, GIT, MongoDB, CI-CD
Technical	Prediction with machine learning algorithms, Model deployment via API
Communication	English, French

Interest

Interest Football, Mangas, Science Fiction, Article and scientific books

Honors & Awards

INTERNATIONAL

2022 **Finalist**, Econometrics Game Edition 2022

Amsterdam,
Netherlands