ROSTAND TCHOUAKAM

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SUMMARY

I'm a PhD candidate in Economics with a strong quantitative foundation in statistics and mathematics. I bring 4+ years of consulting experience across Cameroon, The Gambia, and Canada. Since July 2021, I've worked as a consultant with the World Bank Group; since December 2023, I've served as a PhD Intern at the Artificial Intelligence Innovation Centre (SKEMA Business School, Canada). My work focuses on applied econometrics, financial economics, and machine learning. I pair technical rigor with clear communication and collaborative leadership—and I share practical econometrics insights on my YouTube channel, "Econometrica Learnia."

EDUCATION

University of Montreal (UdeM), *2022-*
PhD candidate in Economics, Canada

Sub-Regional Institute of Statistics and Applied Economics (ISSEA) *2018-2021*
MSc in Statistics and Economics (ISE), Cameroon

University of Yaounde 1 *2017-2018*
MSc (1st year) Mathematics, specializing in Geometry, Cameroon

University of Yaounde 1 *2014-2017*
Bsc Mathematics, Cameroon

TRAINING AND CERTIFICATIONS

The Deep Learning Summer School *August 2025*
Training on Machine Learning for Economics and Finance, ESOMAS DEPARTMENT, University of Turin, Italy.

Heterogeneous Agents in Asset Pricing Summer School *August 2024*
Training in Computational Macroeconomics with Hamilton Galindo Gil, Tom Phelan and Stavros Panageas, Monte Ahuja College of Business, Cleveland State University, USA.

SoFiE Financial Econometrics Summer School *July 2024*
Training on the Econometrics of Derivatives Markets with Viktor Todorov, Torben Andersen and Oleg Bondarenko at the Kellogg School of Management, Northwestern University, USA.

Workshop Artificial Intelligence applied to Industry *January 2024*
Training on machine learning, applied to concrete problems in specific industrial problems at CIMAT, Gunuajuato, Mexico

Gender Statistics Training *February 2022*
Completed a training seminar on gender statistics, co-organized by UN Women Cameroon and the Sub-Regional Institute of Statistics and Applied Economics (ISSEA), Cameroon

Macroeconomic Diagnostics course *February 2020*

Certified in macroeconomic diagnostics and economic analysis through the International Monetary Fund's Institute for Capacity Development, Washington, D.C., USA.

PROFESSIONAL AND RESEARCH EXPERIENCE

World Bank Group September 2021 – Present

Economist — Short-Term Consultant (STC) *Washington, DC*

· Built and maintained the Poverty Measurement Database (PMD), documenting methodological choices and sources across countries while constructing welfare aggregate.
· Quality Enhancement Reviews (QERs) of welfare aggregates for WAEMU (UEMOA) countries to improve methodological consistency and data quality
· Consumption aggregates and poverty measures for the Western and Central Africa (AFW) region in line with Mancini & Vecchi (2021) guidelines
· Harmonized living-standards and High-Frequency Phone Survey (HFPS) datasets to produce comparable welfare indicators
· Applied geospatial data to poverty analysis and diagnostics

AI Innovation Centre (SKEMA Business School, Canada) August 2023 – December 2024

PhD Research Intern *Montréal*

· Developed and maintained a portfolio choice model using deep reinforcement learning.

Teaching *2024-*

Mathematical Techniques for Economics (UdeM); Fall 2024

Teaching assistant *2022-*

Mathematical Techniques for Economics (UdeM) ; Fall 2022, Winter 2023, Fall 2024, Winter 2025
Advanced microeconomics (UdeM); Winter 2024, 2025 (PhD level) for professor Massimiliano
Special topics in money and banking (UdeM) ; Fall 2024, 2025 (graduate level) for professor Alain-Philippe Fortin
Principles of economics (UdeM); Winter, Summer, Fall 2023 (Online, undergraduate)

Research in progress

"Solving consumption–investment models with Theory-Informed Neural Networks (TINNs),"
Proposes a machine-learning approach embedding economic structure to solve high-dimensional dynamic programming models.

AWARDS AND FELLOWSHIPS

Fonds de Recherche du Québec Science et Culture (FRQSC) fellowships, ranked 2nd, 2025-2028
Mitacs Accelerate Grant – Research Internship, 2024
NSERC–CREATE Fin-ML (Machine Learning in Quantitative Finance & Business Analytics) — Training grant, (PhD cohort), 2023
Ph.D. fellowships, Department of Economics, UdeM 2022-
Tuition-fee Waiver Scholarship of Graduate Studies, University of Montreal, Canada, 2022-2025
Excellence Scholarship, Government of Cameroon, Subregional Statistical School (2018-2021)

TECHNICAL STRENGTHS

Programming	Stata, Python, Matlab, Latex
Microsoft	Excel, Powerpoint, Word

VOLUNTEERING ACTIVITIES AND TALKS

Economics PhD Student's Representative   *Fall 2024–2025*
Defending and representing PhD students' interests at the Université de Montréal, Canada.

Volunteer, SCIKOOP Inc.   *Jan 2023 – Jun 2023*
Contributed up to 8 hours per week to the development of diversity, equity, and inclusion indicators for research cohorts. Actively supported the enrichment of the OPAIR digital platform, demonstrating professionalism and commitment to collaborative research initiatives.

Volunteer, Cap Campus (Université de Montréal)   *Oct 2024*
Encouraged academic perseverance among high school students from disadvantaged and multicultural backgrounds through conferences, workshops, campus visits, and networking activities. Promoted equal opportunities in access to higher education while developing skills in oral communication, adaptability, and personal engagement.

LANGUAGE AND OTHER INTERESTS

French (native), English (fluent), German (fluent), soccer, reading, writing, badminton

ABSTRACT OF SOME SELECTED WORK IN PROGRESS

Solving consumption–investment models with Theory-Informed Neural Networks (TINNs)
This research develops a Theory-Informed Neural Networks (TINNs) framework to solve high-dimensional consumption–investment problems under recursive utility. By embedding economic structure into neural network training and leveraging LSTM architectures, the approach overcomes the curse of dimensionality and delivers accurate approximations of value and policy functions. Preliminary results confirm strong alignment with analytical benchmarks, highlighting TINNs as a scalable and interpretable tool for computational economics.

> **JEL Classification:** C61, C63, G11, E21
> **Keywords:** Consumption–Investment Models, Curse of Dimensionality, TINNs

Designing an Indexation Mechanism for Fuel Prices Linked to International Oil Market Conditions
Professional thesis submitted for the degree of Engineer in Statistics and Economics (ISSEA, Yaoundé, Cameroon), defended July 16, 2021.
This research develops and evaluates alternative fuel pricing mechanisms—such as moving averages and price bands—to align domestic pump prices in Cameroon with international oil market fluctuations. Using ARIMA models and Monte Carlo simulations, the study demonstrates that a price band mechanism offers the most operationally viable solution, balancing fiscal sustainability with social acceptability.