Gaetan Bakalli

Contact Information

Emlyon Business School
23 Av. Guy de Collongue
69130 Ecully, France

Artificial Intelligenge in Management Institute
Quant Research Center
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Academic Positions

Assistant Professor of Econometrics and Data Science (tenure-track), Emlyon Business School, Ecully, France, 2022 - present.

Visiting Assistant Professor of Statistics, Auburn University, Department of Mathematics and Statistics, Auburn, USA, 2021 - 2022.

Education

PhD in Statistics, Geneva School of Economics and Management (GSEM), University of Geneva, Switzerland, 2016 - 2021

- Thesis: "*Domain-Tailored Approaches to Statistical Learning*", Advisors: Prof. Olivier Scaillet & Prof. Stéphane Guerrier.

MSc in Statistics, Geneva School of Economics and Management (GSEM), University of Geneva, Switzerland, 2013 - 2016

Publications

11. Ramzy, G. M., Norkin, M., Koessler, T., Voirol, L., Tihy, M., Hany, D., McKee, T., Frédéric Ris, Buchs, N., Docquier, M., Toso, C., Rubbia-Brandt, L., **Bakalli, G.**, Guerrier, S., Huelsken, J., Nowak-Sliwinska, P., "*Platform combining statistical modeling and patient-derived organoids to facilitate personalized treatment of colorectal carcinoma.* Journal of Experimental Clinical Cancer Research, 42(1), 79, 2023.

10. **Bakalli, G.**, Cucci, D. A., Radi, A., El-Sheimy, N., Molinari, R., Scaillet, O., & Guerrier, S., "*Multi-signal Moment-based Approaches for Repeated Sampling Schemes*", IEEE Transactions on Signal Processing 71, 1103 - 1114, 2023.

9. Menkveld, A. J., Dreber, A., Holzmeister, F., Huber, J. and Johanneson, M., Kirchler, M., Razen, M., Weitzel, U., . . . , **Bakalli, G.**, (crowdsourcing project with 342 coauthors), "*Non-Standard Errors*", Journal of Finance, forthcoming, 2023.

8. **Bakalli, G.**, Guerrier, S., & Scaillet, O., "*A Penalized Two-pass Regression to Predict Stock Returns with Time-varying Risk Premia*", forthcoming in Journal of Econometrics, Themed Issue on "Predictive Financial Modeling", 2023.

7. Miglioli, C., **Bakalli, G.**, Guerrier, S., Orso, S., Molinari, R., Karemera, M. & Mili, N., "*Evidence of antagonistic predictive effects of miRNAs in breast cancer cohorts through data-driven networks*", Scientific Report 12, 5166, 2022.

6. Parisi, N., Janier-Dubry, A., Ponzetto, E., Pavlopoulos, C., **Bakalli, G.**, Molinari, R, Guerrier, S., & Mili, N., "*Non Applicability of Validated Predictive Models for Intensive Care Admission and Death of COVID-19 Patients in a Secondary Care Hospital in Belgium*", Journal of Emergency and Critical Care Medicine, 5: 22, 2021.

5. Guerrier, S., Jurado, J., Khaghani, M., **Bakalli, G.**, Karemera, M., Molinari, R., Orso, S., Raquet, J, Schubert Kabban, C., Skaloud, J. Xu, H. & Zhang, Y., "*Wavelet-Based Moment-Matching Techniques for Inertial Sensor Calibration*", IEEE Transactions on Instrumentation & Measurement, 69(10), p.7542-7551, 2020.

4. Radi, A., **Bakalli, G.**, Guerrier, S., El-Sheimy, N., Sesay, A. B., & Molinari, R., "*A Multisignal Wavelet Variance-based Framework for Inertial Sensor Stochastic Error Modeling*". IEEE Transactions on Instrumentation and Measurement, 68(12), p. 4924-4936, 2019.

Conference Proceedings

3. **Bakalli, G.**, Radi, A., Nassar, S., Guerrier, S., Zhang, Y., & Molinari, R., "*A Two-step Computationally Efficient Procedure for IMU Classification and Calibration*", in Proceedings of IEEE/ION PLANS 2018, Monterey, CA, USA, 2018.
2. Radi, A., **Bakalli, G.**, El-Sheimy, N., Guerrier, S., & Molinari, R., "*An Automatic Calibration Approach for the Stochastic Parameters of Inertial Sensors*", in Proceedings of the ION GNSS+ 2017, Portland, OR, USA, 2017.
1. **Bakalli, G.**, Radi, A., El-Sheimy, N., Molinari, R., & Guerrier, R., "*A Computational Multivariate-Based Technique for Inertial Sensor Calibration*", in Proceedings of the ION GNSS+ 2017, Portland, OR, USA, 2017.

Articles submitted

4. Molinari, R., **Bakalli, G.**, Guerrier, S., Miglioli, C., Orso, S., & Scaillet, O, "*SWAG: A Wrapper Method for Sparse Learning*".
Full text: https://arxiv.org/abs/2006.12837.

Talks

"*A Penalized Two-pass Regression to Predict Stock Returns with Time-varying Risk Premia*":

- ECˆ2 Paris, France, Dec. 2022
- FoFI Lancaster, UK, Sep. 2022
- Finance Seminar, Queen Mary University London, UK, Jan. 2022.
- CFE-CM Statistics London, UK, Dec. 2021.
- Financial Econometrics Seminar, CREST-ENSAE Paris, France, Dec. 2021.
- 19^{th} Paris December Finance Meeting, Online, Dec. 2021.
- 20^{th} Workshop in Econometrics for Finance, Online and Onsite in Paris, France, Nov. 2021.
- Statistics and Data Science Seminar, Auburn University, Online, Sep. 2021.
- EEA-ESEM 2021, Online, Aug. 2021.
- China International Conference in Finance, Online and Onsite in Shanghai, China, Jul. 2021. Discussant: Prof. Seth Pruitt.
- 7^{th} IYFS Conference, Online, Jul. 2021.
- 4^{th} International Conference on Econometrics and Statistics, Online, Jun. 2021.
- North American Summer Meeting of the Econometric Society, Online, Jun. 2021.
- International Association for Applied Econometrics Conference, Online, Jun. 2021.
- 13^{th} Annual SoFiE Conference, Online, Jun. 2021.
- 14^{th} Financial Risks International Forum, The Institut Louis Bachelier, Online, Mar. 2021.

"*A Two-step Computationally Efficient Procedure for IMU Classification and Calibration*", IEEE/ION PLANS 2018, Monterey, CA, USA, 2018.

"*A Computational Multivariate-based Technique for Inertial Sensor Calibration*", ION GNSS+ 2017, Portland, OR, USA, 2017.

Teaching

Ecole Normale Supérieure, France

- Module Leader, Topics in Financial Macroeconomics (Graduate). Spring 2024

Emlyon Business School, France

- Instructor, Introduction to Financial Markets (Graduate) Fall 2022
- Instructor, Dynamic Dashboard Applications with R (Graduate) Spring 2023
- Module Leader, Introduction to Python for Finance (Graduate) Spring 2023
- Module Leader, Graduate Econometrics 1 (Graduate) Spring 2023
- Module Leader, Finance for Strategist (Graduate) Fall 2023

Auburn University, USA

- Instructor, Statistics for Health Sciences (Undergrad) Spring 2022

University of Geneva, Switzerland

Weekly seminar sessions, student reception hour, exams preparation and grading, for the following courses:

- Teaching Assistant Financial Econometrics Fall 2016 - 2020
- Teaching Assistant Stochastic Processes in Finance Fall 2016 - 2018
- Teaching Assistant Quantitative Risk Management Spring 2017 - 2018

Statistical Software

"swag" - R package: implements the algorithm presented in [7] and [6]. Available on CRAN.
More information: https://github.com/SMAC-Group/SWAG-R-Package/.

"avar" - R package: implements the allan variance and allan variance linear regression estimator for time series models. Available on CRAN, downloads ≈ 7K/year. More information: https://smac-group.github.io/avar/.

"mgmwm" - R package: implements various methods related to the wavelet variance including the approaches proposed in [3] and [4] to perform multisignal analysis. Available on Github.
More information: https://github.com/SMAC-Group/mgmwm.

Referee Experience

Journal of Empirical Finance, Quantitative Finance and Journal of Business and Economic Statistics.

Computer Skills

- Extensive programming experience with R & Python (functional and OO programming) and Matlab
- Programming experience with C++ & SQL

Languages

- French: Fluent (mother tongue)
- English: Fluent
- Dutch: Advanced

Date

November 12, 2023