Thierry Moudiki PhD

Machine Learning • Actuarial Science • Quantitative Finance

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Actuary with 10 years of experience and senior Data Scientist, currently Actuarial Consultant in General Insurance at **Oney Insurance (Malta)**. Founder of **Techtonique LLC** (selected by **Microsoft for Startups in 2024**). PhD from Université Lyon 1. Creator of open-source R/Python packages with **over 1M downloads**. Reviewer for NeurIPS 2026 and for NeurIPS, ICML and ICLR workshops.

Professional Experience

Actuarial Consultant – General Insurance
May 2026 – Present

Oney Insurance, Malta

Development of portfolio monitoring tools and support of day-to-day business in General Insurance.

Founder and Analytics Consultant
Sept. 2019 – Present

Techtonique LLC

R&D in statistical Machine Learning, simulation and optimisation. Techtonique web application for decision support (forecasting, tabular machine learning, economic scenarios, reserving). Open-source packages with 1M+ downloads. Selected for the **Microsoft for Startups** program in 2024. See `https://github.com/Techtonique`

Actuary – Economic Capital
Jul. 2015 – Jul. 2017

Aviva

Economic capital valuation in life insurance.

Actuary – Non-Life Reserving
Apr. 2015 – Jul. 2015

Allianz

Calculation and validation of technical provisions in non-life insurance.

Actuarial Consultant
Sept. 2011 – Feb. 2015

Optimind Winter

Actuarial consulting across Life and Non-Life insurance and finance. Key clients: Allianz France (QRT Pillar 3 Solvency II tool) and BNP Paribas Cardif (Structured products documentation, Internal Model Solvency II).

Actuarial Consultant
Jan. 2010 – Sept. 2011

Premium Consulting

IAS 19 actuarial valuations of employee benefit obligations + Risk mapping of retirement savings schemes at AXA France Vie.

Risk Capital Modelling
Apr. 2008 – Sept. 2009

Allianz Investment Management

Risk capital modelling. See `https://thierrymoudiki.github.io/blog/2025/09/16/r/python/revisiting-equity-scr`

Research & Teaching

Tutor
Sept. 2023 – Jun. 2024

Université Paris Dauphine – PSL

Supervision of an actuarial Master's dissertation on the use of Random Vector Functional Link networks as Economic Scenario Generators (awarded by the Institut des actuaires).

Lecturer – Data Analysis
Sept. 2023 – Dec. 2023

ICN Business School

Statistical methods for Grande École Master's students (Paris region).

Lecturer – Numerical Simulation
Sept. 2022 – Sept. 2023

Université Paris-Dauphine | Tunis

Monte Carlo methods, stochastic processes, computational techniques in finance and insurance.

Postdoctoral Researcher
Sept. 2018 – Sept. 2019

Université Claude Bernard Lyon 1

Research on excess mortality in insured populations; survival analysis.

Education

PhD – Actuarial Science
2015 – 2018

ISFA, Université Lyon 1

Interest rates modelling for insurance: interpolation, extrapolation and forecasting

Master – Actuarial Science, Fellow Institut des Actuaires
2008 – 2009

ISFA, Université Lyon 1

Research Master – Actuarial and Financial Sciences
2007 – 2008

École Centrale de Lyon

Engineering Degree – Financial Engineering
2005 – 2008

ENSIMAG, Grenoble

Skills

Languages & tools: Python, R, SQL, VBA, Excel, Apache Spark

Expertise: Machine Learning • Time Series Forecasting • Actuarial Science • Quantitative Finance • Financial Risk • Climate Risk • Numerical Optimisation

Awards & Affiliations

- ⋆ **Reviewer** – NeurIPS 2026; ICML Workshop 2026 (*Foundation Models for Structured Data*); ICLR Workshop 2026; NeurIPS Workshop 2025
- ⋆ **Microsoft for Startups** – Techtonique LLC selected, 2024
- ⋆ Associate Member – Institut des actuaires (2012–2017, 2021, 2026)
- ⋆ Member – Société Française de Statistique (2019 and 2020)

Selected Publications & Presentations

- **Zero-Shot Probabilistic Stock Returns Forecasting with Pretrained RVFL Networks** – *COPA 2026* (Conformal and Probabilistic Prediction with Applications)
- **Conformal Predictive Simulations for Univariate Time Series** – *PMLR 266*, 2025
- **Multiple time series forecasting using quasi-randomized Functional Link Neural Networks** – *Risks 6(1)*, 2018
- **Economic scenario generators** – *Modelling in Life Insurance*, Springer, 2016
- **Sensitivity of a life annuity to interest rate curve extrapolation** – *Bull. Français d'actuariat 14(27)*, 2014
- See my Google Scholar profile
- Accepted at **osQF 2026** (ex-R/Finance): *Semi-parametric option pricing based on underlying's historical data*
- Presented at International Symposium on Forecasting 2024, 18th Financial Risks International Forum 2025 at Institut Louis Bachelier, and Risk 2026 organised by the R consortium
- See my presentations

Certifications

Deep Learning Specialisation (3 courses) – Coursera, 2023

Dev Bootcamp Wall Street NYC (full-stack web development + SQL) – 2017

Introduction to Python for Data Science – edX, 2017

Introduction to Big Data with Apache Spark – edX, 2015