

Eliasse TIAO

Data Scientist | Statistician-Economist Engineer | Google DeepMind Scholar

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PROFILE

Data scientist and Statistician-Economist Engineer, and a recent graduate of the M.Sc. in AI for Science at AIMS South Africa (Google DeepMind Scholar). I build machine learning and statistical models that turn complex data into reliable, decision-ready insight, with hands-on experience spanning banking, enterprise risk, energy forecasting, and multilingual NLP. My work combines rigorous statistical modelling with explainable, uncertainty-aware machine learning to deliver AI systems that remain trustworthy in real-world, high-stakes decisions.

PROFESSIONAL EXPERIENCE

AI / Machine Learning Researcher – Research Internship (Remote)

Feb 2026 – Jul 2026

Wattzo

Germany

- Built an explainable, uncertainty-aware forecasting framework jointly modelling demand and production across 12 commercial and industrial sites from smart-meter, sensor, and weather data.
- Benchmarked Extreme Gradient Boosting (XGBoost)–Light Gradient Boosting Machine (LightGBM) ensembles against Hybrid Convolutional Neural Network–Transformer quantile models across single-site and multi-site settings.
- Designed a Peak-Window conformal calibration strategy to improve prediction-interval reliability during recurring high-demand regimes.
- Applied SHapley Additive exPlanations (SHAP) diagnostics to identify drivers of forecast errors, interval width, and coverage failures.

Statistician & Economic Engineer – Research Internship

Mar 2025 – Jul 2025

National Institute of Statistics

Cameroon

- Built a longitudinal Small and Medium-Sized Enterprise survival dataset by linking enterprise census records with fiscal data to study business cessation in Cameroon.
- Combined descriptive statistics, logistic regression, machine learning classification, and survival modelling to identify key drivers of enterprise mortality.
- Trained Random Forest, XGBoost, and CatBoost classifiers, with CatBoost achieving Area Under the Curve = 0.884 and F1-score = 79.8% for business-survival prediction.
- Implemented a Random Survival Forest model achieving concordance index = 0.70 and integrated survival-risk outputs into an interactive policy dashboard.

Data Scientist – Research Collaboration

Apr 2025 – Jun 2025

Afriland First Bank / Sub-Regional Institute of Statistics and Applied Economics Partnership

Cameroon

- Structured internal Automated Teller Machine event logs into a predictive monitoring dataset enriched with temporal, technical, and location-based features.
- Benchmarked Random Forest, XGBoost, CatBoost, Stacking, and neural-network classifiers to anticipate prolonged machine outages within a 2–4 day horizon.
- Selected a Random Forest classifier achieving F1-score = 82% and Area Under the Curve = 95%, with simulations suggesting a 7.19-point improvement in global machine availability.

Field Officer / Quantitative Researcher

Jun 2024

Sub-Regional Institute of Statistics and Applied Economics

Cameroon

Supervised Computer-Assisted Personal Interviewing data collection with Open Data Kit and Census and Survey Processing System; performed quality control, consistency checks, and post-collection cleaning on survey microdata.

SELECTED MACHINE LEARNING PROJECTS

Scalable Recommendation System

Dec 2025

African Institute for Mathematical Sciences Academic Machine Learning Project

South Africa

- Built a large-scale movie recommendation system on over 32 million ratings using bias-only baselines and Alternating Least Squares latent-factor models.
- Improved robustness under sparsity through genre-based side information, hyperparameter sensitivity analysis, and Numba-based parallelization.

Fine-Grained Polarization Detection (Multilingual NLP)

Jan – Mar 2026

SemEval-2026 Task 9, ACL Workshop

San Diego, USA

- Developed a multilingual natural language processing system to detect polarization manifestations in English and Hausa social media posts.
- Addressed severe class imbalance with transformer-based encoders, Adaptive Focal Loss, and label-wise threshold optimization, ranking 5th on the Hausa track and 14th on the English track.

Agentic AI System for Automated Statistical Reporting

Dec 2025

Personal AI Engineering Project

South Africa

- Developed a Streamlit-based agentic AI application that converts comma-separated values (CSV) or Excel datasets into structured statistical report plans.
- Integrated profile selection, study-context capture, metadata analysis, editable report plans, multilingual support, caching, autosave, and cost-control modules.

TECHNICAL SKILLS

- **Programming:** Python, R, Stata.
- **Machine Learning and AI:** PyTorch, Scikit-learn, XGBoost, LightGBM, CatBoost, LangChain, SHAP, conformal prediction, survival analysis, time-series forecasting.
- **Statistics & Econometrics:** regression and generalized linear models, panel-data and fixed-effects models, logistic regression, survival modelling, uncertainty quantification.
- **Data, deployment and research tools:** Streamlit, Git, $\LaTeX$, Open Data Kit, Census and Survey Processing System.
- **Languages:** French (native), English (academic and research working proficiency).

PUBLISHED PAPERS

- **2026 – TIAO, E.,** Edou, J.R., Gohouede, M.A.L. *DeepSemantics at SemEval-2026 Task 9: Label-Wise Optimization with Adaptive Focal Loss for Polarization Manifestation Identification*. In Proceedings of the 20th International Workshop on Semantic Evaluation (2026), pp. 1632–1640, San Diego, California, USA. Association for Computational Linguistics.

ACCEPTED FOR PUBLICATION

- **2026 –** Konlack Lonlack, G., **TIAO, E.** *Data-Driven Lifelines: An Artificial Intelligence and Econometric Early-Warning System for Small and Medium-Sized Enterprise Survival in Cameroon*. To appear in: Deep Learning Indaba 2026 / IJCAI Special Volume.
- **2026 –** Gohouede, L.C., Gohouede, M.A.L., **TIAO, E.,** Edou, J.R. *FloodTriage: A Decision-Theoretic Tri-Fold Deferral Policy Towards Human-in-the-Loop Streamflow Forecasting*. To appear in: Deep Learning Indaba 2026 / IJCAI Special Volume.

PAPERS UNDER REVIEW

- **2026 – TIAO, E.,** Gohouede, M.A.L., Gohouede, L.C., Edou, J.R., Mwanda, V. *Trustworthy Human-AI Collaboration for SME Survival: A Cost-Aware and Uncertainty-Guided Deferral Framework*. Under review, TrustAI Workshop, Deep Learning Indaba 2026 (Proceedings of Machine Learning Research).

EDUCATION

Master of Science in Artificial Intelligence (AI for Science) <i>African Institute for Mathematical Sciences / Stellenbosch University</i>	<i>Sep 2025 – Jul 2026</i> <i>South Africa</i>
Engineer in Statistics and Economics <i>Sub-Regional Institute of Statistics and Applied Economics</i>	<i>Sep 2022 – Jul 2025</i> <i>Cameroon</i>
Pre-Engineering Programme – Mathematics, Physics and Engineering Sciences <i>Polytechnic School of Ouagadougou</i>	<i>Sep 2020 – Jul 2022</i> <i>Burkina Faso</i>

HONORS, AWARDS & COMPETITIONS

- **Google DeepMind Scholarship**, African Institute for Mathematical Sciences / Stellenbosch University *2025–2026*
- **5th Place, Hausa Track**, SemEval-2026 Task 9: Polarization Manifestation Identification *2026*
- **Finalist**, IndabaX Cameroon Hackathon, Data Visualization Track *Apr 2025*
- **2nd Prize**, Data Visualization Competition, Sub-Regional Institute of Statistics and Applied Economics *Dec 2024*
- **State Scholarship** (Merit), Burkina Faso Ministry of Higher Education *2020–2022*

PROFESSIONAL DEVELOPMENT & CERTIFICATIONS

Industry Immersion Program (IIP) <i>iiAfrica – in collaboration with ESMT Berlin, funded by BMZ/DAAD</i>	<i>Jul 2026 – Present</i> <i>South Africa</i>
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Data & Analytics: Problem Solving, Data-Driven Decision Making, Applied Data Analytics, Data Storytelling & Visualization, Machine Learning Fundamentals. **Business & Strategy:** Design Thinking, Strategic Marketing, Customer-Centric Insights, Project Management. **Leadership & Career:** Team Dynamics, Negotiation Skills, Professional Branding, and Career Readiness.

Kaggle Learn (2024): Machine Learning Explainability, Feature Engineering, Time Series, Deep Learning, Geospatial Analysis – **Certificates**.

Project Management: Certificate in Management and Project Monitoring, Groupe Agence Française de Développement (AFD), 2024.