DJAMAL TOE

Engineering student at ENSAI | Statistical Engineering (Génie Statistique), Data Science & AI

Seeking: a PhD starting in late 2027, or a permanent position | Machine learning, probabilistic modelling, RWE

Rennes, France | LinkedIn | Portfolio

SUMMARY

Engineering student at ENSAI, specialised in statistical engineering (génie statistique), with practice in machine learning and uncertainty quantification. Built hierarchical Bayesian models and a unit-tested R Shiny app deployed in production at Servier, presented to three audiences; Tech Lead of a project with 520+ tests. Seeking a PhD starting in late 2027, or a permanent position.

EDUCATION

ENSAI - Engineering degree, Data Science and Machine Learning, Rennes, France *2024 - 2027*

Relevant coursework (3rd year): Statistical learning · Large-scale statistical learning · Deep learning · Reinforcement learning · Regularisation

Université Nazi Boni - Bachelor's degree in Statistics and Computer Science, Burkina Faso *2020 - 2023*

PROFESSIONAL EXPERIENCE

Biostatistics / modelling intern · Pierre Fabre *April 2027, 6 months (upcoming)*

- Upcoming internship. Planned missions: PopPK, PD, TGI, nonlinear modelling (nonlinear mixed-effects models, NLME), Bayesian inference with Stan.

Data Scientist intern, Biostatistics · Servier France, Saclay, Onco Late Phase team The story in 1 minute *May 2026 - Sep 2026*

- **Probability of success (PoS) of oncology trials, from phase II to phase III:** developed an analytical framework based on Brownian motion (closed form, after Kundu) and a flexible hierarchical Bayesian framework (MAP and mixture priors, several levels of uncertainty).
- Implemented the models in Stan (MCMC, HMC/NUTS) for continuous, binary and survival endpoints; validated them by simulation and sensitivity analyses.
- Deployed a unit-tested R Shiny app in production on Servier's internal server; presented the work to the Onco Late Phase team, Global Biometrics and at the Journées de la Biostatistique (SFdS, CNAM Paris, 5 Nov 2026).

Data Scientist intern · Les Vieilles Charrues, France The story in 1 minute *Jun 2025 - Aug 2025*

- **Selection of festival volunteers:** automated the cleaning and preprocessing of volunteer applications and ran the exploratory analysis.
- Modelled acceptance factors with MCA and logistic regression; validated the model with the Hosmer-Lemeshow test and ROC/AUC.

Biostatistician intern · Centre Muraz, Burkina Faso The story in 1 minute *Aug 2023 - Apr 2024*

- **Evaluation of a malaria intervention trial:** estimated about 42% lower malaria incidence in targeted villages (adjusted model) in a stepped-wedge trial, using a negative-binomial mixed model (village random effect, population offset).
- Automated R pipelines and built interactive Shiny dashboards.

PROJECTS

- Coordinated image sharing (ENSAI): perceptual hashing, CLIP, UMAP, HDBSCAN (Bayesian tuning), temporal networks, Louvain, 217,000+ posts.
- Biomedical texts (ENSAI): SciBERT, UMAP, HDBSCAN, Bayesian optimisation. Brain MRI: EfficientNetB5, 99.78% test accuracy on 906 images.
- FuelTrack (Tech Lead): FastAPI, PostgreSQL, 520+ tests. AELYN (ongoing personal project): personal assistant with a local LLM.

SKILLS

ML & Deep Learning: Supervised learning (XGBoost, Random Forest, SVM, KNN), clustering (HDBSCAN, K-means, hierarchical, Louvain), CNN, NLP, PyTorch, TensorFlow, penalised regression (ridge, lasso, elastic net), Bayesian optimisation, Gaussian processes

Applied statistics & time series: Mixed models, logistic regression, PCA/MCA, hypothesis testing, generalised additive models (GAM), time series (ARIMA, SARIMA)

Bayesian statistics: Stan, MCMC/HMC/NUTS, hierarchical models, MAP and mixture priors

Programming & data: Python, R (Shiny), Git, FastAPI, PostgreSQL

CERTIFICATIONS

Machine Learning Specialization (DeepLearning.AI, 2025) | Bayesian Statistics: From Concept to Data Analysis (UCSC, 2026)

LANGUAGES & INTERESTS

Languages: French (native), English (B2, technical and scientific use).

Interests: Basketball (competition) | Programming | Reading scientific articles | AELYN (local AI assistant)