DJAMAL TOE

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

Seeking: a PhD starting in late 2027, or a permanent position | Biostatistics, pharmacometrics, real-world evidence (RWE)

Rennes, France | LinkedIn | Portfolio

SUMMARY

Engineering student at ENSAI, specialised in statistical engineering (génie statistique). Developed a hierarchical Bayesian PoS methodology deployed at Servier and presented to three audiences; Tech Lead on a software project with 520+ tests. Seeking a PhD from late 2027 or a permanent position.

EDUCATION

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

Relevant coursework (3rd year): Bayesian statistics · Statistics of processes · Markov models for image analysis · Linear and non-linear filtering · Design of experiments

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: population PK (PopPK) models, PD models, tumour growth inhibition (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 detection (ENSAI): perceptual hashing, CLIP, UMAP, HDBSCAN tuned by Bayesian optimisation; 217,000+ posts, 43,000+ accounts; FDR-controlled permutation tests, temporal networks, Louvain.
- Biomedical text clustering (ENSAI): SciBERT, UMAP, HDBSCAN with Bayesian optimisation, 4 themes on women's health.
- Adolescent health (ESCAPAD 2022): association tests, MCA.

SKILLS

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

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

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

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

CERTIFICATIONS

Bayesian Statistics: From Concept to Data Analysis (UCSC, 2026) | Machine Learning Specialization (DeepLearning.AI, 2025) | Statistical Analysis with R for Public Health (Imperial, 2025)

LANGUAGES & INTERESTS

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

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