# Baye Malick Gning

+33761132749 | bmalick.gning@gmail.com | https://linkedin.com/in/baye-malick-gning-a61110179

## PARCOURS ACADEMIQUE

Engineering Degree, Centrale Supélec 2021 – 2025
*Mathematics and Data Science, Information and Data Sciences*

Master's Degree in Applied Fundamental Mathematics (M2), University of Lorraine 2024 – 2025
*Advanced Probability: discrete stochastic processes and continuous-time stochastic processes*

Preparatory Classes for the Grandes Écoles (MP), Lycée Henri IV 2019 – 2021

## EXPERIENCE

Research Internship, Michelin, Clermont-Ferrand May 2025 – Nov 2025
*Reduction of metal artifacts in tire tomographic images using Deep Learning*
After training on X-ray tomography, I conducted a literature review on metal artifact reduction using deep learning techniques. I am building a synthetic tomographic image database of tires. I am exploring the use of diffusion models for unsupervised training.

Internship, EDF, Grenoble March 2025 – August 2025
*Turbine failure classification*
I annotated textual data related to turbine failures, designed a methodological annotation guide, and fine-tuned the CamemBERT language model for this specific task.

Research Internship, Innov+, Gif-sur-Yvette July 2023 – Dec 2023
*Emotion prediction from video data*
I conducted a literature review on emotion prediction, implemented 3D convolutional architectures based on research papers, and developed preprocessing and data augmentation techniques for video data.

## PROJETS

School project
*Digital holography and deep learning for 3D localization of bacteria*
I studied deep learning methods for 3D tracking of bacteria using holographic diffraction patterns. I implemented and trained a physics-based localization model using simulated synthetic data, then evaluated its performance on experimental data provided by LEMTA.

Personal project
*Machine Learning grind*, https://github.com/bmalick/machine-learning-grind
I study research papers in machine learning and deep learning. I implement various statistical and deep learning algorithms from scratch. I apply these models to datasets to evaluate their performance.

School project
*Denoising of simulated stent images*
I worked on the restoration of X-ray images with high noise levels. I simulated noisy images that contain stents. I implemented a U-Net architecture for the denoising task, compared different denoising methods like PCA and BM3D. I also applied data augmentation techniques.

## COMPÉTENCES

**Languages** Python, C++, LaTeX, SQL
**Frameworks** Scikit-Learn, PyTorch, TensorFlow, pandas, NumPy, Matplotlib, Seaborn, OpenCV, CleanLab, Albumentations
**Tools** Git, Conda, Docker, Kafka, Kubernetes

## LANGUES

**French** Bilingual
**Wolof** Native language
**English** C1

## CENTRES D'INTÉRÊT

Football, reading, manga, anime, cooking