

# Baye Malick Gning

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## PARCOURS ACADEMIQUE

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Engineering Degree, Centrale Supélec <i>Mathematics and Data Science, Information and Data Sciences</i>	2021 – 2025
Master's Degree in Applied Fundamental Mathematics (M2), University of Lorraine <i>Advanced Probability: discrete stochastic processes and continuous-time stochastic processes</i> <i>Optimal stochastic control</i>	2024 – 2025
Preparatory Classes for the Grandes Écoles (MP), Lycée Henri IV	2019 – 2021

## EXPERIENCE

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Research Internship, Michelin, Clermont-Ferrand <i>Reduction of metal artifacts in tire tomographic images using Deep Learning</i> After a quick learning on X-ray tomography, I conducted a literature review on metal artifact reduction using deep learning techniques. I built a synthetic tomographic image database of tires. I made a benchmark of most promising models based on supervised and unsupervised learning.	May 2025 – Nov 2025
Internship, EDF, Grenoble <i>Turbine failure classification</i> I annotated textual data related to turbine failures, designed a methodological annotation guide, and fine-tuned the CamemBERT language model for this specific task.	March 2024 – August 2024
Research Internship, Innov+, Gif-sur-Yvette <i>Emotion prediction from video data</i> 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.	July 2023 – Dec 2023

## PROJETS

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School project <i>Digital holography and deep learning for 3D localization of bacteria</i> 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 <i>Machine Learning grind</i> , <a href="https://github.com/bmalick/machine-learning-grind">https://github.com/bmalick/machine-learning-grind</a> 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 <i>Denoising of simulated stent images</i> 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

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

## LANGUES

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French	Bilingual
Wolof	Native language
English	C1 – Cambridge English certified

## CENTRES D'INTÉRÊT

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Reading, chess, football, manga, anime, cooking