BATANGA LOKO Mathis

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Professional Motivation

I am an AI/ML Engineer passionate about building data-driven solutions, with hands-on experience in both research and industry environments. I am proficient in **Python** and **SQL**, and I have practical experience building **AI agents** and **MCP servers**. I am also deeply interested in the end-to-end lifecycle of AI : from model development to deployment and production. Hence, I am seeking my first full-time role as an **AI/ML Engineer**.

Skills

- **Programming Languages :** Python, R, SQL, C/C++, Bash
- **AI Engineering :** LLM agents (MCP, A2A, LangChain), RAG & vector databases, prompt engineering, LLM evaluation & benchmarking, LLM inference (vLLM, llama.cpp), Pytorch
- **DevOps & Production :** Docker, CI/CD (GitHub Actions), AWS
- **Systems & Infrastructure :** Linux/Unix administration, Bash scripting, self-hosted server setup (SSH, Nginx, systemd)
- **Tools :** Git, LaTeX, Markdown, Notion, Obsidian, Claude Code

Professional Experiences

- **Merck Healthcare KGaA** *September 2026 - Currently*
  AI Engineer (Internship) Germany
  - Supporting a department in the **adoption of agentic systems** by **evaluating 4 AI-enabled co-scientists** and **benchmarking** them across **10+ use cases**.
  - Currently building **production-grade agents** that leverage proprietary and public data to **gain insights** in **target discovery**.
  - Participating in the creation of an AI initiative to help researchers across departments learn about AI and its applications.

  Core Areas and Technologies : ***AI Engineering, Agentic Systems, LLM Evaluation & Benchmarking, RAG, MCP, Drug Discovery***

- **DataAnnotation** *May 2024 - September 2026*
  Prompt Engineering Specialist Freelance
  - Evaluation of **AI agents'** responses with expertise in **mathematics**, **computer science**, and creative writing.
  - Creation of rubrics designed to refine and enhance **Large language models'** outputs.
  - Supervision of other contributors' work to ensure the quality and accuracy of **AI models'** responses.

  Core Areas and Technologies : ***Large Language Model, Artificial Intelligence, SOTA, RLHF, Mathematics, Computer Science***

- **Centre de Recherche en Neurosciences de Lyon** *April 2025 – July 2025*
  Data Scientist (Internship) France
  - Development of a **pipeline** for neurochemical **data analysis** using **Python** and **SQL**.
  - Supported a peer-reviewed article publication by conducting a **statistical analysis** using **R**.
  - Implementation of **supervised learning models** to extract important features. (Repository available on Github)

  Core Areas and Technologies : ***Machine Learning, Exploratory Data Analysis, Neurochemistry, SQL, Python, scikit-learn***

Publications

Machine Learning–Driven Prediction of Neurochemical Signatures in the Rett Syndrome Mouse Brain
M. Batanga Loko, S. Parrot, N. Panayotis, J-C. Roux, F. Alexandre. Journal of Neuroscience Methods.
DOI : 10.1016/j.jneumeth.2026.110949

Projects

- **Tsugiwa** *May 2026 - Currently*
  Tools : Python, Shiny, FastAPI, SQlite, Docker
  - Built a multi-threaded **web scraper** deployed with an API and a Dashboard on a distant server to collect and store **over 500,000** user profiles and **more than 40 million** manga entries from MyAnimeList.
  - Building a recommender system using the collected data. (Repository available on Github)

- **Machine learning driven postoperative follow-up support (SMAIO)** *September 2025 - January 2026*
  Tools : Python, Pytorch, scikit-learn, numpy, pandas
  - **Exploratory data analysis** of preoperative patient data to **advise** the company on the quality of its data.
  - Developing **machine learning algorithms** as well as **custom loss functions and metrics** to predict the reduction of **kyphosis**.

Education

- **Institut National des Sciences Appliquées de Lyon** *September 2023 - February 2027*
  Engineering Degree (Masters equivalent), Department of Bioinformatics and Biotechnology Bron, France
  - Completed courses in **Artificial Intelligence, Data Science, Mathematics, Statistics** (Bayesian and Frequentist inferences), **Biology** with **wet lab** experience (Omics, Genetics, etc.), **Web** & **Software Development** (API development and usage...)

Languages

French (**native**), English (**C2 : Cambdridge English Certification)**, German (**notions**), Japanese (**beginner**)