






# NOUR GHRIBI

Data Scientist ~ ML engineer


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## SUMMARY

Enthusiastic Swiss National Data Science Graduate from EPFL seeking entry-level opportunity. I honed my expertise, refining financial data analysis in Fixed Income, Interest Rates, and Forex. As a co-founder of AMLD Africa, I led a major digital AI event, showcasing organizational skills and a passion for machine learning.

## SKILLS

**Coding:** Python, Scala, Java, SQL, Bash, HTML.

**Technologies:** GCP, Spark, Pandas, NetworkX, PyTorch, Git, Docker, Linux, MS Office, MS Excel, MS PowerPoint.

**Data Skills:** Business Intelligence, KPI-development, Cloud-Infrastructure, Analytics.

## EDUCATION

02/2020 – 10/2023 **M.Sc Data Science, minor Management of Technology and Entrepreneurship** **EPFL**

- Engaged in a comprehensive study of Machine Learning, Deep Learning, and Data Analysis.
- Participated actively in The Consulting Society in addition to taking some managerial and business-oriented courses, enhancing business acumen alongside technical expertise.
- Extra-curricular activities:** The Consulting Society.

09/2015 – 01/2020 **B.Sc. Communication Systems** **EPFL**

- Focused on Computer Networks and Security, building a robust foundation in system analysis and design.
- Extra-curricular activities:** Tunes.

## EXPERIENCE

9/2022 – 3/2023 **Data Scientist Intern** **Compagnie Financière Tradition**

- Spearheaded the creation and enhancement of innovative internal financial tools as part of my master's thesis, refining financial analysis and proposing data pipeline optimizations for actionable insights.
  - Developed visualization tools and dashboards (BI) for financial data analysis, enhancing stakeholder understanding and decision-making.
  - Leveraged the power of graph representations to propose a new perspective and innovative angle on financial trade data.
  - Provided financial analysis support for the CFO and the company's financial department.
  - Presented intermediate results to the stakeholders and non-technical audience regularly.
- Data Analysis / Graph Theory / Anomaly Detection / Business Intelligence - BI

2/2022 – 8/2022 **Data Analyst Intern** **Compagnie Financière Tradition**

- Developed and executed internal tools, facilitating data extraction, consolidation, analysis, and visualization.
  - Managed real-world unstructured text data to derive crucial insights for informed financial decision-making.
- Data Engineering / Data Extraction / Regex / Software Engineering / Automation

2/2021 – 12/2022 **Founder and Organizer** **Applied Machine Learning Days Africa**

- Co-founded and managed the African iteration of the prestigious Applied Machine Learning Days by EPFL (AMLD), demonstrating my organizational skills.

2/2021 – 6/2021 **Research Assistant** **Ecole Polytechnique Fédérale de Lausanne**

- Aided the Ph.D. and post-doctoral teams of the Distributed Computing Lab on research in federated learning.
- Python / PyTorch / Research

9/2019 – 1/2020 **Teaching Assistant** **Ecole Polytechnique Fédérale de Lausanne**

- Teaching Assistant for the Object Oriented Programming course in Java.
  - Collaborated with the teacher to recognize issues students are facing and recommend solutions.
- Java / OOP / Teaching

## LANGUAGES

**English, French** - C1, **German** - A2+, **Arabic** - native

## PROJECTS

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Research  
&  
Time Series  
Analysis

### Predicting the "Present" with Google trends

Forecasting Stock Volatility

- Leveraged Auto-Regressive models improved by time series data of Google search engine trends (*Predicting the "Present" with Google Trends*) to predict index volatility in financial markets.
  - Concluded the project by presenting the results in a storytelling style on a Data-Story website.
- Time Series / Applied Data Analysis / Research

Deep Learning:  
NLP  
&  
Computer Vision

### Visiolinguistic Image Search

- Reviewed and extensively researched State-Of-the-art Machine Learning models to replicate and combine them in a creative setting.
  - Concluded the project by Implementing a proof of concept on Fashion Data that leverages Interactive Image Retrieval, Keyword Extraction, and Image Clustering.
- Multi-Modal Machine Learning / PyTorch / Python

Big Data  
&  
Recommender  
Systems

### K-NN Movie Recommender System

- Engineered a scalable movie recommendation system using collaborative filtering, leveraging Apache Spark and Scala for processing large-scale user rating data.
  - Analyzed and optimized deployment strategies for cost-efficiency and performance, demonstrating adeptness in big data solutions and machine learning applications.
- Big Data Analysis / Machine Learning / Scala / Spark

Deep Learning

### PyTorch Framework Exploration

- Delved into deep learning by rebuilding PyTorch's core modules, mastering neural network principles and implementation techniques.
  - Constructed and fine-tuned sequential neural networks, focusing on linear layers and activation functions.
  - Demonstrated proficiency in complex architectures through the development of Siamese Networks for MNIST dataset digit comparison.
- Deep Learning / Neural Networks / PyTorch / Python

Machine Learning  
& NLP

### Sentiment Analysis of Tweets

- Conducted sentiment analysis on Twitter data using a range of machine learning models, from simple linear classifiers to advanced deep learning techniques, enhancing my expertise in Python and NLP.
  - Successfully implemented and fine-tuned BERT, a state-of-the-art NLP model, on the Google Cloud Platform, demonstrating my proficiency in leveraging cloud technologies for complex machine learning tasks.
- Deep Learning / NLP / Python / LLM / Google Cloud Platform

Deep Learning  
&  
Data Analysis

### Blockbuster movies recipe

- Used the TMDB movies data to try to uncover what constitutes a blockbuster movie. (Feature engineering, ML models)
- Deep Learning / XGBoost / Python

Big Data  
&  
Data Analysis

### Robust Journey Planner

- Improved SBB-CFF journey planner by considering historical success rates using statistical modeling
- Big Data Analysis / Spark / Hadoop / Python