

AYOUB MNINA

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Computer Science Engineer, immediately available for a full-time position in developing innovative analytics software and data-driven digital solutions, combining advanced modeling, optimization, and data science within a dynamic and innovative environment across the EU, Canada and USA.

WORK EXPERIENCE

CNES - French Space Agency

Apr. 2025 – Oct. 2025

Scientific Software Engineer - Data & Analytics

Toulouse, France

- Prototyping and development of **analytical software** for extracting insights, enhancing, and delivering advanced analysis and visualizations of GNSS satellite data (GPS; GLONASS; Galileo; BeiDou)
- **Understanding** of team needs and participation in the **definition** of key parameters and operational specifications
- Implementation of **scalables pipelines** for **preprocessing, transformation, and analysis** of PPP correction **data workflows** (orbit, clocks, biases corrections for Precise Point Positioning)
- Development of an **optimized reporting solution** enabling **automated** generation of **system performance reports** using **Python scripting**, delivering precise positioning results, precise orbit and clock calculations, and **20+** detailed **operational KPIs** to internal teams and system users
- Design and development of an interactive **Dash-based monitoring system** enabling internal diagnostics and proactive detection of anomalies in satellite, constellation, and PPP correction indicators
- Development of **unsupervised learning models** for advanced analysis and pattern detection in the dataset
- **Deployment and integration** of the developed solutions into the PPP-WIZARD Software
- *Tools : Python, Pandas, Plotly/Dash, PyLaTeX, Jupyter, Linux, Gitlab, Confluence/Jira*

AW Service

June 2024 – Sep. 2024

Software & Data Engineer

Paris, France (Full-Remote)

- **Developed ETL pipelines** to process hotel booking data and generate **data-driven insights across 15+ KPI**
- Built a **predictive machine learning model** to anticipate booking cancellations with a **precision of 89%**
- Deployed the ML solution as a **C++/Qt desktop application** (2-way PMS) enabling automated and real-time **online-optimized** booking management
- *Tools : Python (Pandas/Numpy, scikit-learn), Snowflake, SQL, Power BI, C++/Qt, Jupyter, Git*

DUFOURNIER TECHNOLOGIES

Apr. 2023 – Aug. 2023

Scientific Software Engineer - Data & Modeling

Clermont-Fd, France

- Development of in-house software to **automate data processing, analysis, and visualization** from tire testing machines (200 Hz **time series** data)
- **Calculation** of tire performance criteria/indicators and **integration** of results into **200+** tires database "data-tires"
- Tire **mathematical modeling** (Pacejka Magic Formula) and improvements to internal PFS (Pacejka Fitting Software) tools from version MF 5.2 to MF 6.1/6.2
- *Tools : Python (Pandas/Numpy/Scipy), PyQt5, PyODBC, SQL, NoSQL, Microsoft Azure, Matlab*

SKILLS

Languages	English (Professional – TOEIC 920/990), French (Advanced), Arabic (Native), German (Limited)
Programming	Python, Matlab, SQL/PL-SQL, C/C++, Java, R, Scilab, Scheme
Data Science	NumPy/Pandas, Scikit-learn, TensorFlow/Keras, PyTorch, PySpark, NLTK, MPI/OpenMP
ETL & BI	Databricks, Azure Data Factory, Microsoft Fabric/Power BI, Snowflake, Tableau, Talend, NoSQL
Tech. Tools	VSCode, Jupyter, Git, Qt, Spring Boot, AngularJS, CPLEX, Linux, SAS, Stata, Pack Office

EDUCATION

- INP-ISIMA, Clermont-Fd, France** 2021 – 2025
Engineering Diploma equivalent to a MSc in Computer Science; Option: Applied Mathematics and Data Science
Relevant courses: Machine Learning, Deep Learning, Database Management, Data Mining, Big Data, Statistics, Partial Diff. Equations, Operations Research, Convex Optimization, Non Linear Programming
- OTH Regensburg - Ostbayerische Technische Hochschule, Regensburg, Germany** 2022 – 2022
Exchange Program in Computer Science and Business Management
Relevant courses: Online Optimization, Operations Research, Project Management, German language
- CPGE Lycee Moulay Idriss, Fez, Morocco** 2019 – 2021
Two-year preparatory course for the competitive examination admission to a Moroccan/French Graduate College
Relevant courses: Advanced Mathematics, Advanced Physics, Chemistry, Industrial Engineering Science, Python, Data Bases, Philosophy, French, English, Arabic

CERTIFICATES

- IBM Machine Learning Essentials + Specialist (Associate & Professional & Advanced), **IBM**
- Introduction to Computer Vision and Image Processing, **Coursera**
- Python For Data Analysis & Python For Data Science, **OpenClassrooms**
- Waterfall Project Management & Agile Project Management, **PMI**

PROJECTS

- Data Science for British Airways** Aug. 2024 – Aug. 2024 (45h)
- Web scraping, **sentiment analysis (NLP)**, and **machine learning algorithms** to gain company insights and predict ticket purchasing behavior (*Python, Databricks*)
- Detection the presence of volcanoes in MARS images – ISIMA** Nov. 2023 – Jan. 2024 (60h)
- Built, trained, and tested a classification model to detect the presence of volcanoes in MARS images (*Python, sk-learn, TensorFlow/Keras, OpenCV*)
- Anomaly detection on a dairy farm – ISIMA** Jan. 2023 – Apr. 2023 (50h)
- Built, trained, and tested a ML classification model (*Python: pandas, scikit-learn*)
- R&D Project – Modeling and Scientific Computing – Valeo** Oct. 2022 – March 2023 (120h)
- Mathematical modeling and analysis of surface roughness to improve the performance of wiper blades by **calculating** the roughness parameters (*Matlab/Scilab*)
- Improving FlixBus Seat Reservations using Online Optimization – OTH** June 2022 – Sep. 2022
- 1st project: Company sales improvement using **online optimization**
 - 2nd project: Seat reservations improvement using **mathematical algorithms** 'Greedy Algorithm for graph coloring (graph theory)' of **online optimization**
- Artificial Sun “TOKAMAK”: A key to the energy challenge – ITER** Sep. 2020 – July 2021
- Theoretical study of nuclear fusion and the complex technologies used in TOKAMAK reactor design
 - Developed a *Python* program to analyze how the reactor radius affects energy production efficiency (**Q : Fusion Energy Gain Factor**)

INTERESTS

Football

Aerospace/Astronomy

E-Sport

History/Geography