



Mohamed Ali Ben Azzouna

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PROFILE

Master's graduate in Intelligent Decision Making Strategies (IDEAS) from ISG Tunis, seeking a PhD position to advance research in optimization, operations research, and AI-driven decision systems.

EDUCATION

Master in Science and Technology of Business Intelligence	2021 – Nov 2023
Higher Institute of Management of Tunis	Tunis, Tunisia
Bachelor in Management Information Systems	2018 – 2021
Higher Institute of Management of Tunis	Tunis, Tunisia

PROFESSIONAL EXPERIENCE

Data Scientist	Dec 2024 – jul 2025
Business and AI	Tunis, Tunisia

- Implemented **web scraping** scripts for articles from a national website using **Playwright** and **Puppeteer**.
- Text extraction from images by combining **YOLO** for zone detection and **pytesseract** for optical character recognition, with spatial organization of blocks.
- Development of RAG (*Retrieval-Augmented Generation*) systems with **LangChain** for optimized information access via LLMs.
- Fine-tuning language models using **LoRA** and **QLoRA** techniques for specific business use cases.
- Joint entity and relation extraction using the PURE (Princeton University Relation Extraction) method.
- Applied prompt engineering techniques to improve the performance and contextual relevance of LLMs responses.
- Led **data migration** initiatives to transfer complete databases from internal servers to partner servers, ensuring daily synchronization and data integrity.

Keywords: RAG, LangChain, LoRA, QLoRA, LLM Fine-tuning, Prompt Engineering, Entity and Relation Extraction, YOLO, pytesseract, OCR, NLP, playwright, Puppeteer, Web scraping, Data Migration

CRM Consultant	Jun 2024 – Dec 2024
D10	Tunis, Tunisia

Led the management and optimization of CRM workflows, including process automation, email marketing campaigns, and user access administration. Created and configured client sub-accounts, landing pages, and snapshots to streamline onboarding and enhance engagement. Scheduled content across platforms and ensured seamless collaboration by effectively managing user roles and permissions.

Keywords: CRM, GoHighLevel

AI Research Intern	July 2023 – Dec 2023
Cesi Lineact	Arras, France

Modeling and development of a predictive prognostics and maintenance system, combining deep learning and belief theory, for accurate prediction of Remaining Useful Life of aircraft engines using **numpy**, **pandas** and **TensorFlow**.

Keywords: Deep learning, Evidential theory, GAN, CNN, RNN, LSTM, GRU, Numpy, Pandas, Tensorflow.

Risk Analytics Intern

Biware-Consulting

June 2022 – Sep 2022

Tunis, Tunisia

Development of a psychometric (AI) model for risk assessment of a digital finance application to identify customer credit worthiness using **numpy**, **pandas** and **scikit-learn**.

Keywords: Logistic Regression, SVM, Decision Tree, Random Forest, Numpy, Pandas, Scikit-learn.

Data Engineering and Machine Learning Intern

Business and AI

Sep 2021 – Apr 2022

Tunis

Web scraping to collect car listing data from various websites using **Beautiful Soup**. The data was then cleaned with **Pandas** and **NumPy** before being stored in a **MongoDB** database. To accelerate tasks, **Celery** was used to parallelize operations.

Keywords: MongoDB, Numpy, Pandas, Celery, Beautiful Soup, Selenium.

Software Engineering Intern

Smart IT Partner

Feb 2021 – June 2021

Tunis, Tunisia

Design and development of a web and mobile application for managing a training school using **Spring-Boot**, **Angular** and **IONIC**. For project management, we adopted the **SCRUM** methodology.

Keywords: SCRUM, API Rest, Spring-Boot, SQL Server, Angular, IONIC git, github.

ACADEMIC EXPERIENCE

Election Management Platform

ISG Tunis

Sep 2021 – Dec 2021

Tunis

Developed a web application for managing election data with role-based access for administrators, managers, and voters.

Implemented CRUD operations to manage candidates, voter assignments, and voting desks. Designed interactive dashboards using Chart.js to visualize votes per candidate, participation rates, and voting desk activity, providing real-time insights.

Keywords: Spring-boot, ReactJS, Java, PostgreSQL

Socio-Economic Data Analytics and Dashboarding

ISG Tunis

Sep 2021 – Dec 2021

Tunis

Built a centralized data warehouse to analyze socio-economic indicators using the World Bank World Development Indicators dataset. Designed ETL processes in SQL and Python to clean, standardize, and consolidate data from multiple CSV files.

Implemented dimensional modeling to support efficient queries and reporting. Developed Power BI dashboards to visualize key metrics such as GDP growth, literacy rates, and internet penetration, enabling comparative analysis across countries and time periods.

Keywords: Python, SQL Server, Data Warehouse, ETL, Power BI, Dashboarding

SKILLS

Languages: Arabic (Native), French (Advanced), English (Advanced)

Programming Languages: Python, Java, Scala, JavaScript, TypeScript, HTML, CSS, C

Artificial Intelligence & Machine Learning: TensorFlow, PyTorch, Scikit-learn, Keras, OpenCV, YOLO, LangChain, Transformers, Hugging Face.

Data Engineering and Processing: SQL, Data Modeling, Data Warehouse, Snowflake, Apache Airflow, NumPy, Pandas, Matplotlib, Seaborn, Power BI, Beautiful Soup, Selenium, Puppeteer, Playwright

Web & Mobile Frameworks: React JS, Angular, IONIC, Flask, FastAPI, Spring Boot

Databases: MySQL, PostgreSQL, MongoDB, Oracle, SQL Server, Redis

DevOps & Development Tools: Git, GitHub, Docker

Modeling & Architecture: UML (Unified Modelling Language), BPM (Business Process Management)

Specialized AI Techniques: RAG (Retrieval-Augmented Generation), LoRA, QLoRA, Fine-tuning LLM, NLP, Computer Vision, OCR, Prompt Engineering