

Ghada Maaloul

Data Engineer / BI

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ABOUT ME

Data & BI Engineer with a strong track record in designing and implementing scalable data integration pipelines for Lake and Lakehouse architectures. Specialized in advanced data modeling and the development of intelligent analytics solutions leveraging BI and AI. Skilled in Azure, Databricks, Spark, Python, SQL, and Power BI. I apply machine learning and AI techniques to extract actionable insights that support strategic decision-making. Known for a problem-solving mindset and a passion for innovation, I consistently deliver data-driven solutions that improve operational performance and drive business growth.

SKILLS

- Data Modeling Database Management ETL Processes (Extraction, Transformation, Loading)
- Big Data Technologies: Databricks, Hadoop, Spark, AWS, dataiku, snowflake
- Data Centralization and Architecture Design
- Business Intelligence (BI) Solutions
- Programming Languages: Python, Spark, SQL, DAX, R
- Big Data Ecosystems
- Artificial Intelligence (AI)
- Machine Learning & Predictive Modeling
- Cloud Computing Platforms
- Data Analysis & Interpretation
- Data Visualization: Power BI, Tableau
- Query Optimization & Performance Tuning
- Deep Learning Techniques

PROFESSIONAL EXPERIENCE

Up Coop | Gennevilliers, France

[1 year and 5 months] June 2024 – December 2025

Project 1:

Data Engineer / BI

- Designed and implemented a multi-layered Data Warehouse architecture (Bronze, Silver, Gold) using Azure Databricks to centralize and structure data from cashback campaigns and beneficiaries.
- Built scalable data pipelines in Databricks using PySpark and SQL, ensuring high data quality and integrity across ingestion, transformation, and enrichment stages.
- Modeled functional data into optimized star schemas to support complex analytical queries and reporting.
- Developed and deployed ETL workflows orchestrated via Azure Data Factory, integrating data from multiple sources into the Lakehouse architecture.
- Created advanced Power BI dashboards and KPIs to monitor marketing performance, customer engagement, and budget allocation.
- Designed a custom segmentation algorithm based on survey responses and behavioral data, enabling personalized cashback missions.
- Trained and fine-tuned machine learning models (Random Forest, XGBoost) within Databricks for predictive analytics on user preferences.
- Collaborated in a CI/CD environment using Azure DevOps to ensure continuous delivery of data solutions.

Technologies: Python, SQL, Azure Databricks, Machine Learning, Power BI, DAX, ETL, K-Means, RFM Analysis, Spark, Azure Data Factory, CI/CD, Mlflow, Azure DevOps, Hackolade.

Project 2:

Data Engineer / BI

Developed a Power BI dashboard for managing GLPI support tickets, enabling real-time monitoring and performance analysis of IT support operations.

- Designed and implemented a star schema data model to support efficient analysis of ticket data.
- Created multiple Power BI reports and KPIs to track key metrics such as resolution time, SLA compliance, ticket distribution by category, user, and priority.
- Automated data integration using ETL pipelines built with Python and SQL, ensuring data accuracy and timely updates.
- Delivered interactive visualizations to support multi-dimensional analysis and improve decision-making for IT support teams.

Technologies: Power BI, DAX, SQL, Python, GLPI, ETL, Data Modeling

Project 3:

DataEngineer / BI

- Led the integration of InfoGreffé and INSEE registries to validate and synchronize merchant administrative data, ensuring alignment between external sources and internal CRM systems.
- Developed data ingestion pipelines in Azure Databricks using PySpark, connecting to external APIs and flat files to retrieve registry data (InfoGreffé, INSEE).
- Implemented data validation logic in Databricks notebooks to detect mismatches between external registries and CRM records, based on SIRET and SIREN identifiers.
- Designed and modeled KPI tables in Delta Lake to track data quality metrics such as active status, deregistration, and closure flags.
- Used Databricks Delta Live Tables (DLT) to automate the transformation and monitoring of data quality rules in real time.
- Scheduled and orchestrated ETL workflows via Azure Data Factory, integrating with Databricks jobs for scalable execution.
- Built interactive Power BI dashboards to visualize monthly trends in data inconsistencies and monitor the effectiveness of data quality initiatives.
- Collaborated with DevOps teams to implement CI/CD pipelines for Databricks notebooks using Azure DevOps, ensuring version control and automated deployment.

Technologies: Azure Databricks, PySpark, Delta Lake, Delta Live Tables, SQL, Azure Data Factory, Power BI, DAX, Azure DevOps

Project 4:

DataEngineer / BI

- Implemented a Bronze-Silver-Gold architecture in Azure Databricks to structure and refine server log data and monitoring tool outputs.
- Bronze layer: Ingested raw log data from various monitoring tools using PySpark and stored it in Delta Lake format.
- Silver layer: Cleaned, filtered, and enriched the data (e.g., timestamp normalization, error classification) to prepare it for analysis.
- Gold layer: Aggregated and modeled the data to compute KPIs such as availability rate, incident rate, MTTR, and MTBF, optimized for Power BI consumption.
- Built ETL pipelines in Databricks notebooks and orchestrated them via Azure Data Factory for scheduled execution.
- Developed interactive Power BI dashboards to visualize infrastructure health, detect anomalies, and support proactive incident response.
- Ensured data reliability and performance through Delta Lake optimizations, partitioning strategies, and query tuning.

Technologies: Azure Databricks, Delta Lake, PySpark, SQL, Azure Data Factory, Power BI, DAX, ETL, IT Monitoring

Amen Bank | Tunis, Tunisie

[1 year] June 2023 – May 2024

Data engineer / BI

- Built and maintained Power BI dashboards to monitor key KPIs related to banking transactions, enabling real-time visibility and performance tracking.
- Automated reporting processes and implemented data integrity controls and alerts to ensure accuracy and reliability of financial data.
- Improved operational efficiency, reduced costs, and accelerated decision-making by centralizing data access and democratizing analytical insights across departments.
- Conducted predictive market trend analysis and developed strategic scenarios aligned with business objectives.
- Performed customer segmentation based on risk profiles to support targeted decision-making and personalized services.
- Developed an automated credit scoring system to assess customer solvency using machine learning models.
- Implemented a fraud detection framework, including the development and training of ML models to identify suspicious patterns and anomalies.

Technologies: SQL Server, Azure SQL Database, dataiku, Power BI, SSIS, Tableau, Data Warehouse, Python, Data Modeling, KPI Reporting, Machine Learning, Deep Learning, R Studio

Datarise | Paris, France

[5 months] January 2023 – May 2023

BI Engineer

- Conducted requirements gathering and defined key business metrics to track LinkedIn account performance.
- Developed an interactive Power BI dashboard with detailed visualizations of engagement KPIs, enabling real-time performance monitoring.
- Collected, cleaned, and transformed LinkedIn data using SQL and Python, delivering actionable insights to support continuous strategic adjustments.
- Enabled data-driven decision-making by aligning dashboard insights with marketing and communication objectives.

Technologies: SQL Server, aws, Talend, snowflake, Power BI, Data Warehouse, Python, Data Modeling, KPI Reporting

ÉDUCATION

Diplôme d'ingénieur en informatique
Esprit École d'Ingénieurs 2024

Baccalauréat en mathématiques
Lycée Soukra 2019

CERTIFICATS

Applications d'IA pour la détection d'anomalies

Principes de base du calcul accéléré avec CUDA C/C++

Principe du deep learning