

# Riccardo Mogni

DATA ENGINEER | SOLUTION ARCHITECT

Milan, IT

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## Summary

Experienced back-end developer and **data engineer**, proficient in designing and implementing end-to-end, business critical data solutions in cloud environments (**GCP**, **AWS**). Expertise in building custom **ETL** processes for various data sources, including an academic background in **genomic data**. Proven ability to leverage Big Data tools and data integration platforms to create **data pipelines**, **data lakes**, and **data warehouses**, alongside developing **APIs** and services for data accessibility. As a **Senior Consultant**, I leveraged my technical expertise with multinational clients in the **Automotive**, **Energy**, and **Telecom** industries, gaining valuable insights into their business processes. Even in a primarily technical role, I gained experience as a **Technical Team Leader**, coordinating junior resources and serving as a key point of contact for clients and project leadership. Developed strong soft skills through mentoring roles, enhancing my active listening and conflict resolution capabilities.

## Experience

### Capgemini Italia S.p.A.

Milan, IT

INSIGHTS&DATA SENIOR CONSULTANT

May 2022 - PRESENT

- Led the design, implementation and optimization of data solutions for enterprise clients.
- Contributed to functional analysis of client requirements and provided feasibility studies.
- Contributed to project planning and cost forecasting.
- Acted as technical team leader and point of contact for client communication and issue resolution.
- Managed the life cycle of software components for client projects.
- Provided technical guidance and mentorship to junior team members.

### Capgemini Italia S.p.A.

Milan, IT

INSIGHTS&DATA CONSULTANT

January 2021 - May 2022

- Participated in data assessment and feasibility studies.
- Supported the solution design for new ETL and Data Platform.
- Developed and deployed software components for client projects.
- Contributed to performance tuning and system optimization.

### Techedge S.p.A

Milan, IT

IT CONSULTANT

July 2018 - January 2021

- Contributed to data sources assessments and data exploration.
- Supported feasibility study for new initiatives.
- Designed solution for new system and evolution of existing components.
- Developed and implemented software components for client projects.
- Contributed to performance tuning and system optimization.

## Education

### Politecnico di Milano

Milan, IT

MASTER'S DEGREE IN COMPUTER SCIENCE AND ENGINEERING

April 2018

- **Thesis title:** RoadmapImporter modules for GMQL-Importer: Integration of Roadmap Epigenomics Project data and metadata into a GDM repository

### Politecnico di Milano

Milan, IT

BACHELOR OF COMPUTER SCIENCE AND ENGINEERING

September 2015

## Certifications

- Jan 2026 **Google Cloud Certified – Professional Cloud Architect**, Google Cloud
- Feb 2025 **Google Cloud Certified – Professional Data Engineer**, Google Cloud
- Sep 2022 **Google Cloud Certified – Associate Cloud Engineer**, Google Cloud
- Feb 2022 **Confluent Certified Developer for Apache Kafka**, Confluent
- Dec 2021 **Denodo Platform 8.0 Certified Architect Associate (DEN80EDUCAA)**, Denodo

## Skills

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|-------------------------------------|-----------------------------------------|
| <b>Cloud Platforms</b>              | GCP, AWS, Azure                         |
| <b>Programming languages</b>        | Python, Scala, Java, C++                |
| <b>Query Languages</b>              | SQL                                     |
| <b>Database</b>                     | BigQuery, PostgreSQL, MongoDB           |
| <b>Frameworks</b>                   | Apache Spark, Flask, Function Framework |
| <b>Data Integration / ETL tools</b> | Data Fusion, Talend                     |
| <b>Containerization</b>             | Docker, Kubernetes                      |
| <b>Workflow automation</b>          | n8n                                     |
| <b>AI platform</b>                  | Vertex AI                               |

## Projects

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### Telco

*September 2021 – Present*

- Renewed the marketing platform by building a new real-time, data-driven solution based on Pega CDH on Google Cloud Platform (GCP). I acted as the technical team leader for the data group of the project. We were responsible for analyzing the data mart provided by the Data Platform on BigQuery, and for designing and building a data model optimized for the specific requirements of Pega CDH. Once the data model was designed, we developed more than 50 Data Fusion pipelines to move data between BigQuery and PostgreSQL (the Pega CDH database), performing the necessary transformations and data cleaning. We were also responsible for ensuring the quality of the data ingested into Pega and exported to reporting tools. Moreover, we built a custom web application that allows users to execute specific and critical marketing and regulatory campaigns for selected customer segments. The system interacts with multiple digital channels (e.g., website, SMS, email) and analog channels (e.g., POS, contact center, teleseller) used to reach end users. Since the release of the main components of the platform, we have been providing ongoing support and consulting to the client for implementing new features and managing regular operations.
- Main responsibilities: team leadership, solution design, and development.
- Technologies involved: GCP (BigQuery, Cloud Storage, Cloud Run Functions, Bigtable, Pub/Sub, Cloud SQL, Cloud Secret Manager, Cloud Logging, Cloud Metrics, Filestore, GKE), PostgreSQL.
- Programming/query languages and frameworks: Python (Functions Framework), SQL.

### Telco

*January 2021 – August 2021*

- Built a data platform on GCP consisting of data lake (Cloud Storage) and the staging area of a DWH based on BigQuery. The data were obtained from source using ETL pipelines based on Talend able to ingest batch data into a data lake and the staging area of a DWH. From the staging area, the data are consolidated into a dimensional model based on a star schema designed to provide insightful information to a reporting and BI tool. Moreover, the data in the DWH are used to classify the risk class of the user by implementing a SQL engine on BigQuery. The classification data are shown to authorized users through a custom web app running on App Engine.
- Main responsibilities: solution design and development.
- Technologies involved: GCP (Cloud Storage, BigQuery, App Engine) and Talend.
- Programming languages and framework: Python (Flask) and Javascript (Bootstrap, DataTables) has been used to develop the web app, while the engine is done in SQL.

### Manufacturing&luxury

*September 2020 – January 2021*

- Registered web services in a Microsoft Azure API Management instance with the purpose of building a centralized API for access and management for all company services.
- Main responsibilities: development.
- The project is realized using API Management tool of the Azure cloud platform.

### Automotive

*March 2020 – July 2020*

- Ingested data into the data lake and perform ETL process in order to make the data available to the reporting tools.
- Main responsibilities: solution design and development.
- The project is carried out using Python and Scala as main programming languages, using the services provided by AWS cloud platform (S3, Glue, Lambda Function, Redshift).

## Internal PoC

*February 2020*

- Developed an internal proof of concept web app with the purpose of test and demonstrate the capability of the AI tools (Cognitive Services) provided by Microsoft Azure cloud platform. The web app is able to perform face recognition and facial expression analysis on webcam streams. It is also capable of perform text analysis and speech to text transcription. Moreover, the user can load an audio file to get the audio transcription.
- Main responsibilities: solution design, support of feasibility study, and development.
- The main programming language used were Python and JavaScript.
- The technologies involved were Azure cloud platform (Blob Storage, App Services, Cognitive Services, SQL Database) and Flask framework

## Gas&Oil

*December 2019 – January 2020*

- Assessed all the sources providing procurement data (both structured and unstructured) with the purpose to design an application architecture able to collect all the relevant data in a data lake. The collected data will be used in data intelligence report and to feed machine learning algorithms devoted to provide novel information and insight to the business.
- Main responsibilities: data and sources assessment, support of feasibility study, and solution design.

## Gas&Oil

*November 2019*

- Developed a back-end engine devoted to get specific data from a data lake and provide them to a web application by means of API calls.
- Main responsibilities: development.
- The main technologies involved are MongoDB and Flask; the programming language used is Python.

## Energy

*August 2019 – October 2019*

- Designed and developed ETL processing data flows incoming from heterogeneous data sources with the purpose of ingest a data lake and a data warehouse supporting a business intelligence system.
- Main responsibilities: solution design and development.
- The main technologies involved are: Talend, AWS cloud platform (e.g. S3, EC2, EMR), PostgreSQL, Apache Spark framework

## Automotive

*June 2018 – July 2019*

- Developed a tool for monitoring of the warehouses and production plants by computing metrics and KPI. The tools also produce financial indicators over actual and forecast data.
- Main responsibilities: solution design, performance tuning, support of feasibility study, and development.
- The project was based on AWS Big Data Platform Solution (e.g. S3, Lambda, Data Pipeline, EMR, Redshift, SNS, SQS, DynamoDB).
- Main Programming language used: Python, Scala (Apache Spark Framework).