

MUHAMMAD RIDHO HERANOF

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SUMMARY

Data Engineer with **robust** expertise in building scalable ETL pipelines and automating data workflows using **Python, Shell Scripting, SQL, and Apache Airflow**. Experienced in handling high-volume data environments (**processing 1M+ rows daily**), ensuring near real-time data availability for critical business decision-making. Skilled in bridging the gap between raw data and application layers by transforming complex business requirements (YoY, MoM, YTD) into optimized, high-performance database structures. A self-starter proficient in schema design, **PostgreSQL, Dbt**, performance tuning, and integrating diverse data sources (API, SFTP, DB) to deliver reliable data solutions.

EDUCATION

Universitas Andalas 2017-2023 Bachelor of Computer Engineering

Cumulative GPA: 3.28/4.0

Relevant Coursework: Algorithms; Data Structures; Object-Oriented Programming; Database;

WORK AND INTERNSHIP EXPERIENCE

PT. Neural Technologies Indonesia Desember 2023 - Present

Database Engineer

- Developed and maintained end-to-end Airflow data pipelines using Python and Shell scripts, processing 30k rows per 15-minute batch and up to 1M rows daily, ensuring timely data delivery for business users.
- Transformed complex requirements into efficient SQL queries, calculating key KPIs (YoY, MoM, YTD growth, telecom ratios) for dashboard reporting.
- Designed aggregated tables and stored procedures in PostgreSQL, optimized for backend APIs to significantly reduce data load times for visualizations.
- Implemented ETL workflows with Hadoop and Spark (PySpark RDDs) for efficient data extraction, transformation, and loading.
- Scaled and tuned PostgreSQL databases with advanced indexing to handle growing data volumes, improving read/write performance.
- Managed ETL pipelines from Google BigQuery to local PostgreSQL, utilizing BigQuery stored procedures and temporary tables for intermediate processing.
- Improved query performance by adding targeted indexes, reducing table join times by up to 80%.
- Automated data scraping and extraction workflows using Python and Shell scripting, gathering provider rankings from HTML/APIs, formatting as CSV, and delivering via SFTP.
- Developed automated validation tools using SQL and Python to detect data discrepancies between source and warehouse tables, cutting manual QA time by 60%.
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PT Pusat Inovasi Nusantara April 2023 – November 2023

Data Engineer

- Architected a data infrastructure using **Docker, Google Cloud Platform, and BigQuery**, delivering a complete pipeline from data ingestion to visualization within one month.
- Optimized Apache **Airflow ETL workflows** by splitting monolithic tasks into parallel units (7 parts), significantly reducing DAG runtime and resource usage.
- Implemented a real-time streaming system with Apache Kafka and Spark to detect fraudulent online transactions, enabling instant risk mitigation.
- Optimized large PostgreSQL tables (**900k+ rows/week**) with partition pruning strategies, drastically reducing I/O overhead and accelerating analytics queries.
- Developed interactive Looker Studio dashboards to visualize fraud patterns and transaction metrics for business stakeholders.
- Conduct Class as Teaching Assistant for Data Fellowship 10Mentoring 6 students for building data pipeline projects and improve Data Engineer knowledge.

- Designed and implemented scalable data ingestion pipelines using Python and SQL, ensuring seamless integration with existing systems.
- Collaborated with cross-functional teams, including finance and software engineering, to understand requirements and deliver solutions that met business needs.
- Built robust ETL workflows to process and analyze large datasets, enhancing decision-making processes for financial clients.
- Maintained Linux-based deployment environments and ensured compliance with industry standards for security and performance.
- Conducted vendor assessments and summarized offerings to support strategic data acquisition decisions.

SKILLS

Programming: Python, SQL, Javascript

Databases: PostgreSQL, SQL Server, ClickHouse, MongoDB

Pipelines: Airflow, Apache Spark, Talend, NiFi, dbt

Big Data: BigQuery, Presto, Hive, Databricks

Cloud: AWS, GCP

Tools: Docker, Git, Ansible

Visualization: Tableau, Looker, Metabase

ADDITIONAL INFORMATION

Project :

- [Website Portofolio](#)
- [Online Payment Fraud Detection Monitoring & Algorithm Evaluation](#)

Certification:

- [SQL \(Advance\) HackerRank](#)
- [Data Engineer IYKRA](#)