

# Chandan Sahu

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## SKILLS

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- **Languages:** Python, SQL
- **Data Engineering:** dbt Core, Prefect, ETL/ELT, Incremental Loading, Data Pipelines
- **Data Warehousing:** Dimensional Modeling, Star Schema
- **Databases:** PostgreSQL, DuckDB
- **Analytics:** Power BI, Pandas, NumPy
- **DevOps & Tools:** Docker, Git, GitHub, Jupyter Notebook, DBeaver
- **Testing & Data Quality:** pytest, dbt Tests, Data Validation

## PROJECTS

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### Payment Transaction Analytics Platform | *Python, PostgreSQL, Docker, dbt Core, Prefect, Power BI, ETL/ELT* [GitHub](#)

- Designed and built an end-to-end analytics warehouse processing **500K payment transactions**, **12K customers**, and **600 merchants** using **PostgreSQL** and **Python**.
- Engineered **incremental ingestion** pipelines using watermark-based loading for facts and PostgreSQL UPSERT strategies for dimensions, reducing full-refresh dependency.
- Built a **dbt medallion architecture** (staging, intermediate, marts) supporting merchant risk scoring, customer segmentation, and fraud detection use cases - validated via dbt schema tests.
- Built dimensional **star-schema** marts and a 7-page **Power BI** dashboard for fraud monitoring, merchant risk, and executive KPIs (**~₹3.4Bn GMV**, **~3.5% fraud rate**, **~92.6% success rate**).
- **Orchestrated** end-to-end data pipelines with Prefect and Makefile automation (ingest, pytest, dbt build, reporting views) on Dockerized PostgreSQL.

### Retail Analytics Platform | *Python, DuckDB, dbt Core, Power BI, ETL/ELT, Data Modeling*

[GitHub](#)

- Built an end-to-end retail data warehouse on the Olist Brazilian E-Commerce dataset (**9 relational source tables**) using **DuckDB**, **dbt Core**, and **dimensional modeling** (staging, intermediate, mart).
- Optimized **DuckDB warehouse** transformations across 9 source tables using dbt, enabling reproducible analytics workflows and lineage tracking via the dbt DAG.
- Built reusable **SQL data marts** supporting cohort analysis, marketing attribution (ROAS/CPA), RFM segmentation, and conversion funnel use cases via window functions and NTILE.
- Implemented **A/B test significance testing** in pure SQL (z-score, p-value) for experiment readouts in the warehouse layer without external statistical libraries.
- Published business-facing reporting views and dashboards for KPI monitoring, funnel analysis, and regional performance tracking.

## EDUCATION

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**Bhilai Institute of Technology, Durg** - B.Tech Information Technology (CGPA 8.1)

2020 - 2024