

# PALLAB DEY

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## SUMMARY

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Computer Science graduate with expertise in SQL, Power BI, DAX, Python, and modern analytics tools. Builds scalable analytics projects spanning data modeling, ETL, dashboard development, and workflow automation to convert complex datasets into actionable business insights. Brings a detail-oriented, quality-focused approach to problem-solving, supported by a strong academic record, real-world portfolio projects, and 100+ solved SQL challenges.

## SKILLS

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**Programming & Analysis:** Python (Pandas, NumPy), SQL (MS SQL Server, PostgreSQL), ETL Pipelines, Data Modeling

**BI & Visualization:** Excel, Power BI, DAX, Power Query, Dashboard Design

**Cloud & Automation:** Databricks, Docker, n8n, Git/GitHub, Query Optimization, Vector Databases (Pinecone)

## PROJECTS

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[Maven Toys Sales & Inventory Analysis](#) | *SQL Server, Power BI, DAX, Power Query* | [Live Dashboard](#)

- Built an end-to-end sales and inventory analysis on 829K transaction records across 50 retail stores by modeling a star schema in SQL Server, uncovering that gross margin fell 11.3% despite 30.9% revenue growth.
- Designed a 5-page interactive Power BI dashboard with drill-through store detail pages and custom DAX measures (YoY growth, margin %, stockout risk), giving stakeholders store-level and category-level visibility.
- Identified that the top revenue category (Toys, 35% of revenue) carried the lowest margin (21%) while Electronics led on margin, translating the finding into a category mix and seasonal inventory recommendation.

[Automated Transaction Monitoring Pipeline](#) | *Databricks (PySpark/SQL), n8n, Telegram Bot API*

- Engineered a cloud data pipeline in Databricks to process 6.3M synthetic mobile money transactions, building a star-schema model (fact and dimension tables) to support daily and weekly KPI reporting.
- Developed 4 explainable, rule-based risk triggers (fraud rate breach, transfer-to-cash-out chains, volume collapse, transaction spikes) validated against ground-truth fraud labels, surfacing a high-risk laundering chain worth ~\$518K.

[RAG Pipeline & AI Chatbot](#) | *n8n, Google Gemini Embeddings, Pinecone, Google Gemini*

- Designed a Retrieval-Augmented Generation chatbot workflow in n8n, connecting Google Drive as a live document source with an automated ingestion pipeline covering download, recursive character text splitting, and embedding.
- Configured an AI Agent node with a Google Gemini chat model, conversational memory, and a Pinecone retrieval tool, allowing the chatbot to answer natural language questions by querying indexed documents in real time.

## EDUCATION

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**Metropolitan University, Sylhet** | 2021 - 2025

B.Sc. in Computer Science and Engineering — CGPA: 3.97 / 4.00

## CERTIFICATIONS

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**Data Analyst Associate** — *DataCamp*

**Data Analyst in Databricks** — *DataCamp*

## ACHIEVEMENTS

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- Recipient of the Chairman's Scholarship and Vice Chancellor's Scholarship at Metropolitan University.
- Solved **100+** SQL problems across StrataScratch, DataLemur, HackerRank, and LeetCode — documented in the SQL Practice Portfolio on [GitHub](#).