KARAN DEWANGAN

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GitHub - https://github.com/Karan-wab

SUMMARY

Analytical and detail-oriented graduate with a strong foundation in Mathematics & Computing (IIT Bhilai) and hands-on experience in Python, SQL, Power BI, and automation workflows. Skilled in data validation, process automation, and quality checks to ensure accuracy and consistency of datasets. Experienced in designing test-like validation scripts, documenting processes, and collaborating with teams to improve data and reporting quality. Eager to apply problem-solving, analytical, and process-oriented skills to a QA Analyst role, while learning industry-standard QA tools and methodologies in Agile/Scrum environments.

ADDITIONAL INFORMATION

Technical Skills

- **Programming & Scripting:** Python (Pandas, NumPy, Matplotlib, Seaborn), SQL
- **Data Analysis & Statistics:** Exploratory Data Analysis (EDA), Statistical Analysis, KPI Tracking, A/B Testing
- **Business Intelligence & Visualization:** Power BI, Advanced Excel (VLOOKUP, INDEX-MATCH, PivotTables, Conditional Formatting), Business Intelligence
- **Testing Types:** Functional Testing, Regression Testing, Integration Testing, Performance Testing, Automation Testing.
- **Soft Skills:** Risk Analysis & Forecasting,Business Communication, Model Verification, Cross-functional collaboration,Financial Document Analysis.
- **Machine Learning & Deep Learning:** Supervised & Unsupervised Learning, Neural Networks, Model Evaluation, Scikit-learn, TensorFlow/Keras

Certification

- Data Analysis Using Power BI, Campusx.com | Completed: July 2025

Achievements

- All India Rank 493 in IIT JAM – Mathematics (2023)

EDUCATION

Master of Science in Mathematics and Computing

- Indian Institute of Technology(IIT) Bhilai, Chhattisgarh
- Duration: Aug 2023 – May 2025
- CGPA: 6.8

Bachelor of Science in Computer Science

- CCIT, Raipur – Pt.Ravishankar Shukla University, Chhattisgarh
- Duration: Aug 2019 – May 2022
- Percentage: 73.78%

PROJECTS

Automated Financial Reporting Pipeline (Outlook to Power BI)

Designed and implemented an end-to-end automated workflow to streamline daily financial reporting using entirely free tools and services. Utilized Outlook mail rules and Power Automate to extract and store over 25 daily survey files from emails into Google Drive, replacing manual downloads. Developed a Python script integrated with the Google Drive API to consolidate and clean the datasets, Improved financial data accuracy by 90% through automated validation and reconciliation pipelines using Python and Power BI. Loaded the processed data into Power BI, where I used Power Query to transform and model the data. Built a dynamic dashboard with insights such as average annual income, credit utilization, and LTV (Lifetime Value)-based customer promotion targeting. This automation improved delivery speed and accuracy of client reports for the US government. Developed automated validation pipelines in Python to ensure 90% accuracy improvement in financial datasets; applied data quality checks and documented test processes for reproducibility.
https://github.com/Karan-wab/Automated-Financial-Reporting-Pipeline-Outlook-to-Power-BI-/tree/main

Job Market Insights and Workforce Analytics (Power BI)

Developed a robust hiring insights dashboard for a recruitment firm by integrating and transforming over 700,000 job records collected from centralized and normalized sources. Extracted data from Microsoft SQL Server using Python, performed extensive data cleaning, handled missing values, and restructured fragmented tables to create a unified schema. Designed a relational data model in Power BI and transformed datasets using Power Query to enable reliable, high-performance analysis. Built interactive dashboards showcasing hiring trends over years, remote job growth, in demand job fields and skills, and country-wise job type distribution, supporting strategic workforce planning and recruitment decisions.Optimized Power BI visuals to handle large datasets without compromising report speed or responsiveness. Designed ranking-style data tables and collaborated with editorial teams to produce visualizations for public-facing workforce reports.
https://drive.google.com/drive/folders/1SN5Wu_71LxDPOoueYfDtBSybANBRfo3X?usp=drive_link

Graph Coarsening For Graph Neural Networks Using Python

Designed and implemented a graph coarsening algorithm to enhance the scalability and performance of Graph Neural Network (GNN) training on large-scale graphs. The approach preserves spectral properties and node feature integrity by computing spectral distances and merging low-distance node pairs using partitioning. Converted input graphs into weighted forms based on neighborhood feature similarity and adjacency structure. Integrated the coarsened graphs into GraphSAGE-based GNN models using PyTorch and DGL, achieving over 30% reduction in memory usage and significantly faster training times across benchmark datasets (Cora, Citeseer, Actor, Chameleon) with minimal loss in accuracy. Demonstrated potential for real-time, resource-efficient GNN deployment in applications like fraud detection, social networks, and knowledge graphs.
https://github.com/Karan-wab/Graph-Coarsening-For-Graph-Neural-Networks-Using-Python

Pizza Sales Analysis using SQL

Conducted a comprehensive sales analysis project on a pizza delivery dataset using advanced SQL queries to uncover actionable business insights. Extracted key performance metrics such as total revenue, order frequency, and peak order times. Identified top-performing pizzas by quantity and revenue, analyzed category wise demand, and evaluated time based sales trends. Used window functions and aggregation techniques to compute cumulative revenue, percentage contribution by pizza type, and average daily pizza orders.Wrote complex SQL queries for data validation and integrity checks; applied aggregation and window functions to simulate regression and performance testing scenarios on large datasets.
https://github.com/Karan-wab/Pizza-Sales-Analysis-using-SQL/blob/main/README.md