Bhavna (Analyst/Data Scientist/Data Engineer) | https://bhavbot.streamlit.app/

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EDUCATION

NATIONAL UNIVERSITY OF SINGAPORE　　　　　　　　　　　　　　　　　　　　　　Singapore
Masters of Science in Business Analytics　　　　　　　　　　　　　　　　　　Jul 2024 - Sep 2025

PEC UNIVERSITY OF TECHNOLOGY　　　　　　　　　　　　　　　　　　　　　　　India
Bachelors of Technology in Electrical Engineering　　　　　　　　　　　　　Aug 2017 - Jun 2021
- Awarded Institute Color; Certificate of Excellence; Certificate of Appreciation

EXPERIENCE

ZURICH INSURANCE *(Data Science/Data Engineer Intern)*　　　　　Feb 2025 - Sep 2025, Singapore
- Designed an insurance dashboard using **Power BI** and **Python** with **Medallion architecture** to offer actionable insights on risk, hazard grade, and adequacy, helping reduce risk exposure by **35%** and accelerate decision-making by **60%** through ETL Processes and applying Econometric Modeling and statistical analysis, improve transparency across underwriting and risk management functions
- Automated end-to-end reporting for insurance data using **Python** and **Medallion architecture,** building **Azure** pipelines and workflows to cut manual workload by **70%**, improve data accuracy by **25%**, and reduce report delivery time by **50**%, enabling real-time monitoring and analytics
- Partnered with cross-functional teams to validate data quality and accuracy, implemented version control for ETL processes, and documented the entire data flow, establishing a scalable framework for future data science projects

EXL SERVICE (*Analytics Consultant)*　　　　　　　　　　　　　　　　　Jan 2023 - Jul 2024, India
- Developed and executed monthly targeted marketing plans using **Excel**, **Python, SQL, Snowflake** and **Tableau** resulting in a **40%** improvement in buyer outreach and improving user satisfaction for a key US client including Performance Monitoring of pricing strategies
- Executed a 4-step direct mail marketing process using **Python, Tableau**, **SQL, Snowflake** and **Excel** to score key metrics, suppress redundant data, and design a detailed strategy including offers for multiple communication modes, improving targeted precision and efficiency
- Conducted ad-hoc analysis in each process cycle using **Python**, **SQL**, **Snowflake, Tableau** and **Excel**, adapting to real-time factors for optimal strategy refinement, cutting down process completion time by **40%** and transitioning to a single-handed operation
- Utilized clustering algorithms to segment customer base for targeted marketing campaigns, resulting in a **20%** increase in conversion rates and improved customer engagement

EXL SERVICE *(Business Analyst)*　　　　　　　　　　　　　　　　　　　Jul 2021 - Dec 2022, India
- Led ETL processes and automation from **SAS** to **Python, Snowflake, SQL, Tableau** of **20+** insurance dashboards and reports enhancing efficiency by **80%**, reducing manual intervention and processing time by **50%**, improving scalability for a key US client
- Recognized with the **EXL Client Recognition Award** for outstanding contribution and successful delivery of the Data Migration Project

ZENATIX SOLUTIONS *(Business Analyst Intern)*　　　　　　　　　　　Jan 2020 - May 2020, India
- Developed and optimized real-time IoT data pipelines using Python and SQL, enabling predictive maintenance, energy optimization, and up to **60%** reduction in energy consumption
- Automated analytics workflows to cut operational time by **60%** and boost data processing speed **4x**, improving client uptime
- Collaborated with technical, business teams to translate energy insights into actionable, data-driven strategies to enhance client profitability

RESEARCH PROJECTS

NATIONAL UNIVERSITY OF SINGAPORE　　　　　　　　　　　　　　　　　　　　　　Singapore
- Facilitated research on AI Shock through **A/B testing** of ChatGPT outage data, developing treatment and control frameworks to measure user and performance outcomes, and implementing A/B testing methodologies

ACADEMIC PROJECTS

NATIONAL UNIVERSITY OF SINGAPORE　　　　　　　　　　　　　　　　　　　　　　Singapore
- Spearheaded development of SamurAI, a **GenAI chatbot** for dementia care, improving cognitive engagement scores by **40%** through **ResNet** emotion detection, **WhisperX** speech detection and Gemma-powered **RAG**
- Collaborated CardShield, a credit card fraud detection system using **CatBoost** with Random Oversampling and advanced feature engineering, integrated a large language model interface to deliver real-time fraud insights and deployed using MLOPs principles on CML focusing on model design and performance tuning, and applying predictive modeling techniques
- Innovated a distracted driver detection system using advanced deep learning models (**YOLOv8**, **ResNet50**), improving real-time identification of risky behaviors, enhancing driver safety and enabling accident prevention and deployed using MLOPs principles on CML
- Developed a **Tableau** dashboard analyzing customer preferences, dish profitability, and demographics to identify high-potential outlet locations, driving **20%** projected revenue growth and **15%** marketing efficiency improvement

SKILLSET

- Software: Python, SQL, Tableau, PowerBI, MLOPs, Hadoop, Hive, CML, Azure Databricks, Excel, PowerPoint, Spark
- Technical Skills: Machine Learning, Deep Learning, AWS Cloud – Logic App Workflow & Pipeline Development, ETL Automation, Data Modelling, Risk & Marketing Analytics, Data Visualization, Generative AI, OCR Integration, Chatbot Development, Model Context Protocol, Data Engineering, RAG, Data Analysis
- Soft Skills: Cross-Functional Collaboration, Client & Stakeholder Management, Strategic Decision-Making, Hypothesis-Driven Analysis, Malleability in Fast-Changing Environments, Process Optimization & Automation Mindset

CERTIFICATIONS

- Great Learning Bootcamp: Python, SQL, SAS, Machine Learning, Deep Learning, Tableau
- Anthropic: Basic & Advanced topics for Model Context Protocol