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

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Data Scientist and Analytics Consultant with 4 years of experience building scalable data products across insurance, risk, and marketing analytics. Recently wrapped up a MSc in Business Analytics at National University of Singapore with hands-on experience at Zurich Insurance (Singapore) and EXL Service (India). Proven track record of delivering end-to-end analytics platforms, automated data pipelines, and machine learning solutions that reduce operational effort, accelerate decision-making, and drive measurable business impact. Strong expertise in Python, SQL, cloud platforms, and GenAI/LLM-powered systems, with a strong stakeholder-facing mindset.

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 Intern)* 　　　　　　　　　　　*JULY 2024 - SEP 2025, SINGAPORE*
Technologies Used: Power BI, Python, Azure Databricks & Logic Apps Workflows, ERP Systems
- Led the design and implementation of insurance risk dashboards, improving underwriting and risk visibility, along with cross-functional transparency, reducing risk exposure by **35%** and accelerating decision-making by **60%**
- Automated end-to-end insurance reporting and data pipelines, significantly improving data accuracy and delivery speed while enabling real-time monitoring and KPI monitoring, reducing manual effort and reporting turnaround time across finance & risk functions
- Collaborated with cross-functional teams and drove end-to-end delivery of analytics solutions & products by leading requirements gathering, configuration and development, ensuring seamless transition and stakeholder adoption across cross-functional teams

EXL SERVICE (*Consultant)* 　　　　　　　　　　　　　　　　　　　*Jan 2023 - Jul 2024, INDIA*
Technologies Used: Tableau, Python, Excel, SQL, Snowflake, Spark, Hadoop
- Led data-driven pricing and performance analytics for monthly insurance marketing campaigns, leveraging data-driven monitoring and visualisation to improve buyer outreach by **40%** and enhance overall user satisfaction
- Designed and implemented a structured direct mail marketing process for insurance with financial and performance scoring, data suppression controls, and crafting multi-channel offer strategies to improve targeting precision and operational efficiency
- Conducted ad-hoc and cycle-based analytics to refine marketing strategies in real time, reducing process completion time by **40%** and streamlining operations into a single-owner workflow
- Applied clustering and trend analysis to segment customers and identify key behavioural drivers, increasing conversion rates by **20%** and strengthening customer engagement

EXL SERVICE *(Business Analyst)* 　　　　　　　　　　　　　　　　　*Jul 2021 - Dec 2022, INDIA*
Technologies Used: Tableau, Python, Excel, SQL, Snowflake, SAS, ERP Systems, Spark, Hadoop
- Led ETL processes and automation of **20+** insurance dashboards and reports enhancing efficiency by **80%**, reducing manual intervention and processing time by **50%**, improving scalability and efficiency
- Recognised with the **EXL Client Recognition Award** for outstanding contribution and successful delivery of large-scale transformation initiative

ZENATIX SOLUTIONS *(Business Analyst Intern)* 　　　　　　　　　　　*Jan 2020 - May 2020, INDIA*
Technologies Used: Tableau, Python, ETL pipelines, Excel, SQL, ERP Systems
- Developed and optimised real-time sales data pipelines, enabling lead scoring, sales forecasting, and up to **25%** increase in conversion rates and financial modelling and solution development
- Automated analytics workflows to cut operational time by **60%** and boost data processing speed **4x**, improving client uptime

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 outcomes

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,** leveraging LLM and API deployment for enhanced functionality
- 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 and DevOps principles
- Innovated a **distracted driver detection system** using advanced deep learning models (**YOLOv8**, **ResNet50**), improving real-time identification of risky behaviours, enhancing driver safety and enabling accident prevention and deployed using MLOPs and DevOps principles
- Developed a **Tableau dashboard** analysing customer preferences, dish profitability, and demographics to identify high-potential outlet locations, driving **20%** projected revenue growth and **15%** marketing efficiency improvement

SKILLSET

- Data & Cloud Technologies: Python, SQL, Snowflake, SAS, Tableau, Power BI, Cloud Platforms (Azure Databricks, AWS), Microsoft Excel, Large Language Model Ecosystems (OpenAI, Anthropic), Agentic Frameworks, MLOps/LLMOps, Spark, Hadoop, ERP Systems
- Machine Learning & GenAI: Machine Learning, Deep Learning, ETL Pipeline Development, Chatbot Development, Model Context Protocol, RAG Pipelines, Operations Research, Data Engineering, Supervised Learning, Unsupervised Learning, GenAI, Regression & Time Series Analysis, Neural Networks (CNN, RNN), Natural Language Processing (NLP), Prompt Engineering, Blockchain & Smart Contracts Analytics
- Analytics & Business Skills Stakeholder Management, Cross-Functional Collaboration, Casual Inference, Hypothesis Testing, Predictive Analytics, Econometrics

CERTIFICATIONS

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