

Md Shahrukh

Aspiring Actuary | Data Analyst | R & Python

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Location: Kolkata, India

[GitHub](#) | [LinkedIn](#) |

OBJECTIVE

Detail-oriented and analytically driven actuarial professional with hands-on experience in health insurance analytics and exposure to pricing, reserving, and regulatory reporting. Seeking an actuarial analyst role where I can apply my statistical modelling, data analysis, and domain knowledge to support data-driven decisions, optimise risk strategies, and contribute to impactful insurance solutions.

CORE COMPETENCIES

- **Technical Skills:** Excel (Advanced), VBA (Macros), SQL, Python (Pandas, NumPy), R Programming.
- **Actuarial Modelling:** Experience analysis, mortality/morbidity modelling, lapse prediction.
- **Documentation & UAT:** Writing user guides, preparing test cases, reviewing actuarial tools.
- **Communication & Collaboration:** Strong written and verbal communication with team-based project delivery.
- **Problem Solving & Analytical Thinking:** Ability to translate business problems into quantitative models with actionable insights.

ACTUARIAL SKILLS

- **Languages/Tools:** Python, R, Excel (Advanced), VBA (Macros), SQL, Power BI, Git
- **Libraries/Frameworks:** NumPy, Pandas, scikit-learn, TensorFlow, OpenCV, LangChain
- **Other Tools:** MS Office Suite, Jupyter, Google Colab

EXPERIENCE

Data Science Intern | CodSoft

Nov 2024 – Dec 2024

- Developed a **Movie Recommendation System** using collaborative filtering and content-based techniques, employing **Pandas**, **NumPy**, and **scikit-learn**.
- Analyzed the **Titanic dataset** to predict passenger survival, achieving over **90% accuracy** using models such as **Logistic Regression**, **Random Forest**, and **SVM**.
- Built and evaluated models on the **Iris dataset** using **KNN**, **Decision Trees**, and visualized feature importance using **Matplotlib** and **Seaborn**.
- Conducted data preprocessing, feature engineering, and model optimization to enhance performance.
- Presented findings through **dashboards** and **reports**, improving data storytelling.

Tools Used/Learned: Python, Pandas, Numpy, TensorFlow, OpenCV, YOLO, Team Management, Leadership, Timeline Management

[Data Science Intern | Upskill Campus and UniConverge Technologies Pvt. Ltd.](#)

July 2024 – Oct 2024

- Contributed to a **crop and weed detection project** focused on selective pesticide spraying, promoting sustainable agriculture.
- Developed **object detection models** using **YOLO** and **OpenCV** to identify and distinguish crops from weeds, optimizing pesticide application.
- Applied machine learning algorithms to improve the system's accuracy and efficiency in identifying weeds for targeted spraying.
- Gained hands-on experience applying **machine learning** and **computer vision** techniques to real-world agricultural challenges.

Tools Used/Learned: Python, Pandas, Numpy, YOLO, TensorFlow, OpenCV, Team Management, Leadership

PROJECT

[Churn Prediction](#)

Dec 2024

- Developed an ANN-based churn prediction model using Python, TensorFlow, and Keras, achieving **86.82% accuracy** by training on 10,000 customer records with optimised architecture and activation functions.
- **Generated business insights for retention and risk management** by identifying churn drivers through feature importance and ANN prediction outputs. These insights can directly support **actuarial use cases such as lapse rate modelling, policyholder segmentation, and persistency analysis**, enabling insurance companies to improve customer lifetime value and reduce early policy surrenders.

[Credit-Card Analytics Dashboard](#)

Jan 2025

- Designed an interactive Power BI dashboard analysing customer demographics, spending behaviour, and KPIs (CLTV,

churn rate), enabling targeted marketing and personalised retention strategies.

- Achieved potential to lift annual revenue by 12%, reduce churn by 4 percentage points in high-value customer segments, and improve risk-adjusted returns by reallocating credit limits to lower-risk, asset-owning customers through data-driven strategies in product upgrades, retention offers, and credit management.

Gemini RAG Chatbot

Jul 2025

- Engineered a custom Retrieval-Augmented Generation (RAG) chatbot using Google **Gemini API**, **LangChain**, and **ChromaDB** to enable intelligent question-answering over user-uploaded PDF documents.
- Integrated document **chunking**, **embedding**, vector **similarity search**, and **Gemini-powered** reasoning into a seamless Streamlit interface with real-time chat history and custom branding.
- This chatbot enables **actuarial teams** to instantly extract insights from **policy documents**, regulatory filings, and actuarial reports using **AI-powered PDF** question-answering.

EDUCATION

Post Graduate Diploma in Applied Statistics with Data Analytics and Official Statistics

Indian Statistical Institute, Kolkata, India

Aug 2022 – Feb 2024

- **Percentage:** 86.05%
- Ranked **10th** in the ISI PGDAS entrance examination.

Bachelor of Science in Mathematics

Ranchi University

2018 – 2021

- **Percentage:** 76.96%

CERTIFICATIONS

- **AI in Healthcare** – Stanford University
- **Managing Big Data with MySQL** – Duke University
- **Drive Insights from BigQuery** – Google Cloud Skills Boost
- **Python and Pandas for Data Engineering** – Duke University
- **AIG Actuarial Analyst Job Simulation on Forage** – Jun 2025
 - **Analysed 100+ marine liability claims**, identified loss frequency/severity trends using statistical techniques and data visualisation tools
 - **Applied experience rating models** to develop actuarial premiums and risk-adjusted pricing recommendations
 - **Prepared technical pricing reports**, articulating methodology, assumptions, and underwriting insights for stakeholder decision-making
- **AIG Claims Job Simulation on Forage** – Jun 2025
 - **Reviewed** a comprehensive Marine & Inland Marine policy covering temperature-sensitive cargo, with shipment limits of **\$100K (marine)** and **\$50K (inland)**.
 - **Identified 4 key transit risks** (fire, theft, temperature failure, piracy) and **2 critical endorsements** (War & Strikes, Temperature Control Rider); flagged **2 major coverage gaps** in inland theft and pollution cleanup.
 - **Recommended 3 strategic actions**—adjusting sub-limits, enforcing temperature monitoring, and adding endorsements—to align coverage with real-world logistics risks.

Tools Used/Learned: Excel, Risk Management, Stakeholder Reporting, Actuarial Modelling, Statistical Analysis.

POSITION OF RESPONSIBILITY

- **Active Member** of the Institute of Actuaries of India (IAI)
- **CS1**
- **CB2**
- Currently awaiting results for **CS2** and **CM1** exams.

INTERESTS

- **Data Science and Statistics**
- **Pricing Strategy**
- **Actuarial Science**

LANGUAGES

- **English** (Fluent)
- **Hindi** (Fluent)
- **Bengali** (Native)

ACHIEVEMENTS

- Ranked 10th in the **Indian Statistical Institute's Postgraduate Diploma in Applied Statistics** entrance examination.