# SANIA JAIN

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#### **EXPERIENCE**

#### Summer trainee

May 2025 - Jun 2025

Defence Research and Development Organisation

New Delhi

- Automated employee data workflows, reducing manual processing time by 60% by building an Employee Information System using .NET Core, C#, and saving 4+ hours weekly.
- Enhanced system security and compatibility for 300+ employees by implementing JWT-based authentication and responsive Angular JS interfaces.

### Data Analyst Intern

Nov 2023 - Jan 2024

Alankar palace hotel

Bhopal, Madhya pradesh

- Achieved a 15% increase in bookings by analyzing seasonality patterns and recommending targeted marketing strategies tailored to the primary guest age group of 34-50 years.
- Proposed expanding car parking spaces by analyzing trends, resulting in a 10% increase in bookings by enhancing guest convenience and smoother operations.
- Developed an interactive dashboard to visualize key hotel metrics (occupancy rate, booking trends, revenue streams) using Power BI.

#### **PROJECTS**

## Survival Analysis-Driven Churn Prediction — ML

- Developed a time-to-event churn prediction model using Survival Analysis (Cox Proportional Hazard) achieving 93% accuracy, shifting from binary classification to a time-dependent framework to pinpoint optimal intervention timing.
- Engineered a scalable ML pipeline with **XGBoost** (survival:cox), AWS, and SHAP, automating preprocessing and daily inference for 5,000+ customer records.
- Enhanced model transparency by integrating SHAP explainability, enabling business teams to identify key behavioral drivers of attrition such as night calls and evening usage.

### Mall customer segmentation — ML

- Improved marketing targeting by segmenting customers into clusters based on spending score and income, identifying a high-value group with 53% female shoppers for focused campaigns.
- Designed customer segmentation strategy using **K-Means** to uncover actionable insights such as an opportunity with a cluster for sale events on popular items, driving tailored promotions.

#### AHybrid ML-DLarchitecture for accurate and non-invasive brain tumor classification — ML

- Developed a hybrid CNN-SVM model optimized via Particle Swarm Optimization (PSO) for MRI-based brain tumor classification, achieving 84.77% accuracy, a macro-average F1 score of 0.80, and 0.91 precision across four tumor categories.
- Enabled reliable non-invasive diagnosis by improving classification robustness, supporting early detection and treatment planning while minimizing reliance on invasive surgical biopsies.

#### **EDUCATION**

Bachelor of Technology, VIT Bhopal University

Aug 2022 - Present

CGPA: 8.26/10

Highschool (12th), The Sanskaar valley school

2021 - 2022

Percentage: 90.8%

### **SKILLS**

Technical Skills
Soft Skills

Python, Power BI, SQL, Google Sheets, Google Docs, Git, GitHub, MS Excel, R Communication, Team collaboration, Decision making, Data Management

### **CERTIFICATIONS**

## Google Data Analytics Professional Certificate

- Executed basic SQL queries on multiple databases (MySQL, Oracle, and Microsoft SQL), improving data accessibility and accuracy.
- Designed Tableau Public dashboards on data sets up to millions of rows, enabling management to make data-driven decisions 50% faster.

# **LEADERSHIP**

• Organized 3+ technical events fostering an inclusive developer community, engaging over 300 participants, and coordinating cross-functional event logistics.