

ESHAN SINGH

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SUMMARY

Data Science and AI engineer proficient in Python, SQL, Pandas, NumPy, and ML/DL frameworks. Skilled in end-to-end ML pipelines, feature engineering, model evaluation, NLP, RAG, and vector embeddings. Developed predictive models including CNN digit classifiers, churn prediction, disease prediction, and AI chatbots, generating actionable insights via statistical analysis, visualisation, and BI tools.

EDUCATION

University of Maryland, College Park, Maryland, USA <i>Master of Science in Data Science</i>	Aug 2025 - May 2027
Dr D Y Patil Institute of Engineering, Management & Research, SPPU University, Pune, India <i>Bachelor of Engineering, Artificial Intelligence and Data Science</i>	Nov 2021 - Jun 2025

PROFESSIONAL EXPERIENCE

YBI Foundation <i>Data Science and AIML Engineer Intern</i>	Oct 2024 - Jan 2025 <i>Delhi, India</i>
• Built a handwritten digit classification system on the MNIST dataset using KNN, SVM, and CNN architectures, implemented with Python, TensorFlow, Keras, Scikit-learn, Pandas, NumPy, and Matplotlib, achieving 87–92% accuracy.	
• Developed a bank customer churn prediction model using data preprocessing, feature engineering , and machine learning classifiers, with exploratory data analysis (one-hot encoding) and visualisation for actionable insights.	
Nexus Info <i>AIML Engineer Intern</i>	Dec 2023 - Mar 2024 <i>Coimbatore, India</i>
• Designed a real-time chatbot for college admissions using NLP techniques with NLTK and deployed it via Flask , enabling interactive query handling.	
• Engineered a multi-class Disease Prediction System (Gastrointestinal and Skin Disorders). Applied rigorous Statistical Analysis and custom Feature Engineering to optimise raw datasets before deploying specialised ensemble methods like Random Forest and Gradient Boosting (XGBoost) .	
Codsoft <i>Data Science Intern</i>	Aug 2023 - Sep 2023 <i>(Remote), India</i>
• Developed and deployed machine learning models for Titanic survival prediction, sales forecasting , and credit card fraud detection , leveraging classification and regression techniques in Python.	
• Performed data preprocessing, feature engineering, and model evaluation (precision, recall, F1-score), addressing class imbalance to enhance prediction accuracy.	

ACADEMIC PROJECTS AND PAPERS

Loan Default Risk Prediction with ExplainableAI

- Built a binary classification model **Gradient Boosting** to estimate the probability of loan default, leveraging applicant financial history and complex behavioural features.
- Applied explainableAI techniques like **LIME**, to provide transparent risk insights, improving decision-making for credit approval.

Care Compass | Health-Tech Management Platform (Gemini Hackathon Project)

- Won **2nd Place** at the Gemini Hackathon @ UMD for developing a full-stack care coordination platform using **React** and **Node.js**, leveraging **FHIR** standards for real-time risk assessment.
- Architected **RESTful APIs** and implemented a **MongoDB** database to manage high-volume concurrent patient data and Integrated **Google Maps API** for dynamic visualisation of patient-provider proximity.

Career Counselling UsingAI

- Innovated an android application with **voice features** using NLP, Google Cloud SpeechAPI, and GPT models.
- Used **RAG** for dynamic, context-aware recommendations and Google Cloud Text-to-SpeechAPI.
- Utilised ML models (**Decision Trees**, **SVM**, Random Forests), clustering (K-means, Hierarchical), neural networks.
- Published a paper on the same in WRFER National Conference.

TECHNICAL SKILLS

- **Programming & Scripting:** Python (NumPy, Pandas, Scikit-learn, Keras, TF), SQL, Java, JavaScript, Excel (Pivot, Power Query, DAX)
- **Data Analytics & Visualisation:** Data Cleaning, EDA, Feature Engineering, Statistics, A/B Testing, Tableau, Power BI
- **Machine Learning & AI:** Supervised/Unsupervised Learning, Classification, Regression, Clustering, Deep Learning, NLP
- **Advanced AI Techniques:** RAG, Generative AI, LangChains, Vector DBs, AI-Agents
- **Tools & Workflow:** Git/GitHub, Jupyter, Firebase, Android Studio, Google Cloud, ETL, CRM Tools

CERTIFICATIONS

Google Data Analytics Professional Certification Career Essentials in Data Analysis by Microsoft and LinkedIn Google Analytics Certificate	Google AI Essentials Professional Certification Microsoft Azure Machine Learning Python for Data Science by IBM
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