

# ANKITA KARN

## Data Scientist (Machine learning Engineer)

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### SUMMARY

I am a Software Engineer with over 4+ years of experience in software development, specializing in Artificial Intelligence and Machine Learning. I possess proven expertise in designing, developing, and deploying machine learning models, with a strong command of deep learning frameworks, predictive analytics, and natural language processing. I am recognized for my ability to improve efficiencies and deliver scalable AI solutions.

### EXPERIENCE

#### Systems Engineer

##### TCS

10/2022 - Present    Pune

Leading IT services, consulting and business solutions.

- Designed and implemented **NLP pipelines** for **document classification, sentiment analysis, text summarization, and named entity recognition (NER)**.
- Created and optimized **ML models** for **patch verification and security vulnerability prioritization**, significantly reducing manual efforts.
- Built **chatbots** and conversational AI models for customer interaction automation.
- Automated **MLOps pipelines** for model training, monitoring, and deployment. Researched and applied **cutting-edge AI advancements** to improve system performance.
- Integrated **AI/ML solutions** into enterprise applications, ensuring scalability and performance optimization.
- Engineered and optimized **feature extraction techniques** to improve model efficiency.
- Designed **large-scale data pipelines** for structured and unstructured data processing.
- Leveraged **transfer learning** and fine-tuned pre-trained NLP models for domain adaptation.
- Conducted **A/B testing** and performance evaluation to refine model accuracy.
- Worked with **cross-functional teams** to integrate AI solutions into cloud-based architectures.
- Developed **custom APIs** for AI model deployment and real-time inference.
- Conducted **knowledge-sharing sessions** on NLP and AI advancements.

#### Associate Systems Engineer

##### TCS

10/2021 - 10/2022    Pune

Leading IT services, consulting and business solutions.

- Performed **data preprocessing** and feature engineering on large datasets to optimize model accuracy.
- Collaborated on **proof-of-concept AI models**, transitioning them into production.
- Implemented **predictive analytics solutions** using ML algorithms to drive business insights.
- Conducted **statistical analysis** to improve model interpretability.
- Developed **classification and regression models** for various use cases.
- Assisted in **cloud AI deployments** using Azure and AWS services.
- Created **interactive dashboards** to visualize AI model performance.
- Applied **reinforcement learning techniques** for specific AI-driven automation tasks.
- Designed **data augmentation techniques** to improve deep learning model generalization.
- Developed **RESTful APIs** to integrate AI models into enterprise applications.
- Researched and implemented **novel NLP techniques** to enhance text-based predictions.

### EDUCATION

#### Post Graduate Program in AI and ML

##### UT Texas at Austin

03/2024 - 03/2025    USA

#### BTech in Information Technology

##### AKTU

08/2017 - 08/2021    Lucknow

### SKILLS

Data Science		Machine Learning		LLMs
MLOPs	GenAI	LLMOPs	Python	
Azure	RAG	LSTM	API	NLP
Pandas	Clustering		EDA	PCA
Deep Learning		Numpy	Git	Github
Google Cloud		AWS	Hadoop	Jenkins
Docker	Linux	Matplotlib	PyTorch	
REST APIs				

### PROJECTS

#### Credit Card Users Churn Prediction

Churn prediction project for credit card users based on data analysis.

- Designed and deployed end-to-end ML pipelines on Azure, conducted EDA, data preprocessing, and model tuning,
- Productionized models using Azure ML Endpoints & AKS, integrating CI/CD with GitHub Actions for containerization, versioned deployments, secure credential handling, and seamless REST API integration with downstream applications.

#### Generative AI App for Web & YouTube Content Summarization

- Built a GenAI application using LangChain and Groq API to extract and summarize content from YouTube videos and external websites
- Automated URL-based ingestion to generate concise, context-aware summaries with reliable outputs, improving content accessibility and efficiency.

#### Document-based Q&A System

- Built a GenAI-powered Q&A system using LangChain, OpenAI, and FAISS for document-based question answering.
- Integrated Streamlit UI to allow users to upload PDFs and get context-aware answers in real time.