

# DURGA PRASAD THOTA

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## PROFESSIONAL SUMMARY

Results-driven **Data Science professional** with around 2 years expertise in **machine learning, deep learning, and cloud technologies (Azure, AWS)**. Proficient in developing **end-to-end ML models, data pipelines, and scalable AI solutions**. Strong background in **SQL, Python, NLP, and visualization tools (Tableau, Power BI)**. Passionate about leveraging AI to solve complex business challenges.

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## SKILLS & EXPERTISE

Machine Learning & AI: Scikit-learn, TensorFlow, PyTorch, Deep Learning, NLP (DistilBERT, BERT, Transformers)

Programming & Data Processing: Python, R (Basic), SQL, Pandas, NumPy, SciPy, Anaconda, Keras

Cloud & Big Data: AWS, Azure ML, Azure Data Factory, Databricks, Microsoft Fabric, Azure Blob Storage

Data Engineering & ETL: Data Pipelines, ETL Workflow, Apache Spark

Databases: SQL, MySQL, MS ACCESS

Data Visualization: Tableau, Power BI, Matplotlib, Seaborn

Software Development & Collaboration: Monday.com, GitHub, Jira, Confluence, MS Teams

Statistical Analysis: Hypothesis Testing, A/B Testing, Predictive Modeling

Project Management & Agile: Agile, Waterfall, Cross-Functional Team Leadership

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## PROFESSIONAL EXPERIENCE

**ACCENTURE SOLUTIONS Pvt Ltd | Packaged App Development Analyst**

**Client: JSW (Jindal Southwest Holdings) | Data scientist | Oct 2021 - Aug 2023**

### CONVERSATIONAL QA CHATBOT

Built a standalone conversational chatbot using RAG (Retrieval-Augmented Generation) architecture to answer employee queries based on internal policy documents. Extracted and embedded document content using sentence-transformers and implemented vector search with cosine similarity for context retrieval. Evaluated LLMs including GPT, LLaMA, Falcon, and Dolly to optimize for cost, latency, and accuracy. Integrated re-ranking techniques to enhance context matching and led prompt engineering for reliable response generation. Ensured full policy compliance and data privacy throughout the deployment.

**Technologies: Python, OpenAI, RAG, Hugging Face, Lang chain, Vector DB, LLAMA, GPT**

### TICKETFLOW: RE-ROUTING AND RESOLUTION SYSTEM

Created Abi-directional LSTM model with an attention mechanism, incorporating Glove embeddings for priority classification, and devised a heuristic approach for severity classification.

Conducted extensive experiments involving various deep learning models, including LSTM, BERT, and GPT-2, culminating in the development of a BERT-based model for ticket resolution.

Successfully harnessed and fine-tuned the GPT-3 ADA model through a few-shot learning, optimizing its performance for specific applications.

**Technologies: Python, OpenAI, Spacy, Transformers, Pytorch, Hugging Face**

## EDUCATION

Saint Peter's University | master's in data science | 2023 – 2025

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## ACADEMIC PROJECTS

**Hate Speech Detection on Instagram Using ML & Deep Learning (Nov 2024 - Feb 2025)**

Developed an end-to-end hate speech detection model using BiLSTM, DistilBERT, CNN, and SVM for sentiment analysis.

Built ETL pipelines with Azure Data Factory and optimized training on Azure ML Studio to reduce compute costs.

Designed an interactive UI using Streamlit for real-time hate speech detection.

**Instagram Comments Phishing & Hate Speech Detection (2024)**

Built an ML-based system to classify Instagram comments as **phishing or hate speech** using **Random Forest, SVM, and Logistic Regression**, achieving **63% accuracy**.

Designed and deployed a **Streamlit-based web app** for real-time text classification and content moderation.

**Database System for New York Deli Grocery Store (2024)**

Designed and implemented a **database management system** in **MS Access** to improve inventory tracking and customer order processing.

Created **custom reports, queries, and navigation forms** for efficient business operations.

**Vehicle Fuel Efficiency Prediction Using Machine Learning (2023)**

Analyzed automobile datasets and built **Linear Regression models** to predict vehicle MPG efficiency.

Conducted **data cleaning, feature engineering, and visualization** using Python (Pandas, Seaborn) and Tableau.

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**Languages:** English (Fluent), Spanish(foundation)