

# NITISH

Data Scientist

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Portfolio | GitHub

## EXPERIENCE

SkillUpTech | Associate Data Scientist Gurugram, Haryana | March 2025 - March 2026  
Spearhead end-to-end design and deployment of production-grade AI solutions, driving measurable business impact across NLP, LLM fine-tuning, and intelligent automation domains. Core responsibilities span **Python**, **spaCy**, and **LLM** pipelines, cloud AI platforms, and multi-agent workflow engineering.

- **n8n AI Agent Automation:** Architected and deployed advanced multi-agent workflows leveraging deep expertise in JSON schema design, agent chaining, and tool/memory integration within **n8n**. Engineered a fully autonomous **Password Reset Agent** featuring secure OTP generation, automated email dispatch, and token-based authentication flow – High accuracy and demonstrating production-level security practices.
- **GCP Vertex AI — Gemini Fine-Tuning & RAG Agent:** Fine-tuned a **Gemini** model on **Google Cloud Platform Vertex AI** for domain-specific task performance. Independently designed and deployed a **Retrieval-Augmented Generation (RAG)** agent integrating embedding models and vector search to deliver accurate, context-grounded responses — significantly reducing hallucination rates versus baseline.
- **AWS Cloud AI (SageMaker, Lambda):** Leveraged **AWS SageMaker** for scalable **spaCy** model training and deployment pipelines, and **AWS Lambda** for serverless inference endpoints — enabling cost-efficient, auto-scaling AI deployments without infrastructure overhead.

## SKILLS

Programming Languages	Python, SQL, JavaScript, C++, HTML, CSS
Libraries/Frameworks	n8n, spaCy, NLP, LoRA, RAG, LangChain
Tools / Platforms	Matplotlib, Pandas, NLTK, AWS, GCP, PyTorch
Databases	SQL, csv, Buckets, Excel, DataFrames

## PROJECTS

**INSURANCE CLAIM PREDICTION** | [Link](#) Python, Pandas, Matplotlib, Regression, Decision Trees

Developed a machine learning web application to predict whether an insurance claim would be approved. Trained multiple regression models including **Decision Trees** and **Random Forest**. Used **Matplotlib** for data visualization and deployed the best-performing model. Achieved a model accuracy of 89%, leading to a 20% improvement over baseline predictions.

**QWEN 2.5 LLM FINE-TUNING WITH QLORA** | [Link](#) Python, PyTorch, HuggingFace, QLoRA, PEFT, TRL

Fine-tuned a **Qwen 2.5 0.5B** instruction model on local hardware using **QLoRA** (4-bit quantization + LoRA adapters via PEFT/TRL) on the **DialogSum** conversational summarisation dataset. Achieved a +5% *gain in BERTScore F1* (0.8381 → 0.8805) after fine-tuning, with corresponding precision and recall improvements — demonstrating resource-efficient LLM specialization with validation using automated BERTScore evaluation.

**REAL-TIME CHAT APPLICATION** | [Link](#) Flask, Web Sockets, Node.js

Created a live messaging platform to enable real-time user communication. Implemented bidirectional communication using *Web Sockets* with *Socket.IO*. Built a dynamic frontend with HTML/css and Js and backend using Flask. Supported message latency under **200ms**.

## SENTIMENT ANALYSIS | [Link](#)

Python, NLTK, Matplotlib, WordCloud, Logistic Regression

Developed a model to detect public sentiment in social media posts, focusing on identifying depressive or negative content. Cleaned and pre-processed tweets using **NLTK**, implemented a **custom Naive Bayes classifier** with TF-IDF and Bag-of-Words feature extraction for sentiment classification, and visualized patterns with **WordCloud** and **Matplotlib**. Achieved an overall 82% accuracy with improved detection of depressive posts on 10,000+ tweets.

## EDUCATION

J.C BOSE UNIVERSITY OF SCIENCE & TECHNOLOGY, YMCA FARIDABAD	2020 - 2024
<b>B.Tech. - Computer Engineering with Data Science (7.4 CGPA)</b>	Faridabad, Haryana, India
Arya Sr. Sec School, Narwana, Jind	2019
12 <sup>th</sup> HBSE (80%)	Narwana, Haryana, India
Adarsh Sec School, Narwana, Jind	2017
10 <sup>th</sup> HBSE (84.8%)	Narwana, Haryana, India