

Amritanshu Agrawal

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EDUCATION

NIIT University, Neemrana

August 2021 - Present

Bachelor of Technology – Computer Science Engineering with specialization in Data Science

PROJECTS

Financial Transaction Analysis System

- Developed a **machine learning based fraud detection and customer segmentation system**, processing and analyzing a **dataset of over 500,000** transactions for accurate analysis.
- Applied **Isolation Forest** and **Neural Networks** model to achieve **99% accuracy** in detecting fraudulent activities, with **precision** and **recall** optimized through model tuning.
- Implemented **K-Means clustering** on transaction patterns to segment users into distinct behavioural groups for targeted analysis.
- Tools:** Python, Scikit-learn, TensorFlow, Pandas, NumPy

Resume Analysis Web Application

- Built a web application to **analyze PDF resumes**, generating a "Resume Score" using **Groq API** and **GPT-based prompt chaining**.
- Tuned GPT model** for precise scoring and actionable feedback, offering **personalized suggestions** for improvement.
- Enabled a responsive drag-and-drop interface with downloadable reports and light/dark mode for an enhanced user experience.
- Tools:** Python, Flask, Groq API, Tailwind CSS, ReactJS

Sentiment Analysis using Fine-Tuned LLMs

- Fine-tuned** a **sentiment analysis model** using **BERT** in classifying IMDB movie reviews achieving the **accuracy of 95%**.
- Designed and implemented** a **preprocessing pipeline** for cleaning, tokenizing, and batching text data, ensuring compatibility and efficiency in model training.
- Evaluated** the sentiment classification system, integrating custom metrics for precision and recall optimization.
- Tools:** Python, Hugging Face Transformers, PyTorch, Scikit-learn, Pandas, and NumPy

LLM-based Q&A System using RAG

- Developed an **LLM-based, RAG Q&A system** to process and **analyze 20+ lecture PDFs**, enhancing information extraction and delivering context-aware answers.
- Integrated **ChromaDB** for efficient data retrieval, ensuring quick access to and management of document content.
- Integrated Groq API with an **LLM backend** to generate precise and contextually accurate answers to user queries based on retrieved documents.
- Tools:** Python, ChromaDB, RAG, PyPDF2, LangChain

WORK EXPERIENCE

Data Science Trainee | Oasis Infobyte | Remote

June 2024 - July 2024

- Enhanced car price prediction accuracy** by feature engineering and implementing a **Random Forest regression** model, achieving an **R² score of 0.97**.
- Developed a **sales forecasting system** using the **Random Forest** to analyze the impact of advertising across multiple dimensions, achieving an **R² score of 0.98**, which reflects a strong model performance.
- Analyzed unemployment trends** across Indian regions through comprehensive **data cleaning** and **statistical analysis**, identifying critical regional disparities to **support targeted policy-making**.

SKILLS

Languages	Python, SQL
Frameworks / Libraries	TensorFlow, Scikit-learn, Pandas, NumPy, Matplotlib, SciPy, Flask
Tools / Platforms	Git, GitHub, Jupyter Notebook, VS Code, Jira, Figma
Databases	MySQL, MongoDB Atlas
Areas of Experience	Data Analytics, Machine Learning, LLM Fine-Tuning, Web design and Development

CERTIFICATES

IBM Data Science Professional Certificate | Coursera

July 2024

Introduction to Data Analysis using Microsoft Excel | Coursera

June 2024

Programming Essentials in Python | Cisco Networking Academy

April 2022

ACHIEVEMENTS / EXTRA-CURRICULAR ACTIVITIES

- Achieved first place** in the Tech-Savvy Quiz at siNUsoid v7.0, organized by Jigyasu club competing against **over 60 participants**.
- Secured 1st prize** in the Hackathon at siNUsoid v7.0, the annual tech-fest of NIIT University.
- Served as **SEO Lead** in the Tech Team of **GDSC NU**, contributing to the successful completion of the Google Cloud Campaign 2023 and elevating NIIT University to **Tier-1 status**.