Harsh Rana

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EDUCATION

B.Tech - Artificial Intelligence and Data Science (**CGPI - 9.46**)   May 2020 - June 2024
Thakur College of Engineering and Technology, University of Mumbai   *Mumbai, India*

EXPERIENCE

Tata Consultancy Services   Dec 2024 - Present
Systems Engineer (Artificial Intelligence Engineer)   *Mumbai*

- Led **Generative AI** integration across the **SDLC** to enhance automation, accelerate delivery, and foster innovation in enterprise applications.
- Designed and implemented LLM-driven **Proofs of Concept** (**PoCs**) to showcase business value across diverse AI use cases.
- Developed **AI-native tools** such as **chatbots**, **code assistants**, and **RAG**-based systems using **LLMs** to improve user experience and decision-making.
- **Modernized legacy systems** by embedding advanced AI frameworks like **LangChain**, **LlamaIndex**, and **vector stores** (e.g. **ChromaDB**) to enhance scalability and context-awareness.

Dytel Technology Group   May 2023 – June 2024
Intern (Data Engineer)   *Mumbai*

- Leveraged **Airbyte Opensource** and **Talend Open Studio** to gather data from various client servers.
- Engineered a data pipeline using **Postgres SQL**, reducing processing time by **30%**.
- Applied **PySpark** for **advanced ML**, including predictive modeling and statistical analysis.
- Utilized **Metabase Opensource** tool to generate **interactive visualizations**, such as charts and graphs, and embedded these **visual elements** into the application to enhance user experience.

PROJECTS

Dynamic Healthcare Analysis: Utilizing real-time data processing and analytics (Python, SQL, PySpark, Kafka)

- Used Generative AI to develop a dataset for **real-time analysis**.
- Created an **API** for maintaining a dynamic database management.
- Designed Big Data tools, employing **PySpark** and **Kafka** for real-time analysis.
- Generated data visualization elements using **Tableau**.

Navigating Insurance Complexities (JavaScript, AngularJS, Django, Selenium, MySQL)   [**Project Winner**]

- Built frontend with **JavaScript**, **AngularJS**, and **Django** backend for insurance search.
- Scraped insurance data using Python and Selenium from **GoBear** and **Kaggle**.
- Integrated **APIs**, **policy comparison**, and **chatbots** to enhance user experience.

Generative AI using RNN (Python, Flask, Ollama)

- Developed a Content Creation Model using **Gated recurrent unit** (GRU) & **Simple RNN**.
- Conducted a comprehensive comparison, evaluating factors such as Accuracy, Complexity etc.
- Executed **Sentiment Analysis** on input data and generated a summarized textual report.

SKILLS

Programming Languages	Python, SQL, Java
Data Tools	Databricks, AWS, Azure, GCP, Talend, MS SQL, PostgreSQL
Web Frameworks	Django, Flask, REST APIs, HTML/CSS, JavaScript
Generative AI & LLMs	LangChain, LlamaIndex, RAG systems, Ollama

PUBLICATIONS

- Healthcare Data Analytics and Visualization Tools and Application [Taylor & Francis journal – **Scopus Indexed**]
- Generative AI Using RNN [**JMLR**]