HITEN BAHRANI

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SUMMARY

Master's student in Information Systems with strong experience in **applied machine learning, statistical modeling, and data-driven system development**. Built and deployed AI applications integrating LLM APIs and real-time web grounding, with scalable FastAPI backends. Skilled in translating complex data into actionable business insights through model evaluation and structured experimentation.

EDUCATION

University of Texas at Arlington | *Master of Science, Information Systems*   **Arlington, TX Jan 2025 - Dec 2026**

Thadomal Shahani Engineering College | *Bachelor of Technology, Information Technology*   **Mumbai, India 2024**

TECHNICAL SKILLS

- **Languages:** Python, SQL, Java, HTML, CSS, JavaScript, C/C++, R
- **AI / ML:** scikit-learn, Pandas, NumPy, SHAP, Feature Engineering, Model Evaluation
- **Developer Tools:** Power BI, Tableau, Excel, VSCode, Git/GitHub, JIRA
- **LLM & GenAI:** Groq API, LLM Orchestration, Prompt Engineering, Context Grounding, RAG Concepts
- **Databases and Cloud:** MySQL, Oracle, AWS (EC2, S3), nos
- **Frontend & Backend:** React (Vite), TailwindCSS, Angular, FastAPI, REST APIs, CORS, Async Processing

EXPERIENCE

University of Texas at Arlington | *Graduate Teaching Assistant*   **Jan 2026 - Present**

- Analyze **Python programming submissions** (data structures, algorithms, edge cases) to identify **recurring logic errors** and optimization gaps.
- Design structured **grading workflows** for high-volume code assignments, improving evaluation efficiency and consistency.
- Generate **data-driven feedback reports** highlighting performance trends and improvement areas, enhancing overall student outcomes.

ParticleBlack | *Data Scientist Intern*   **Jun 2024 - Dec 2024**

- Built **ETL pipelines** using **Python and SQL** to preprocess **50,000+ interaction logs**, applying feature engineering to support predictive modeling.
- Developed and implemented predictive models using **Python, Pandas, Scikit-learn**, improving response accuracy by **25%** and reducing resolution time by **30%**.
- Designed and deployed interactive dashboards using **Matplotlib, Seaborn, Tableau, and Power BI** to monitor KPIs and communicate AI-driven insights, improving operational efficiency by **15%**.

YHills | *Data Scientist Intern*   **Jun 2023 - Dec 2023**

- Collected and preprocessed over **10,000+ trip records**, applying feature engineering on distance, time of day, and traffic conditions to enhance model input quality by **20%**.
- Developed a **Taxi Fare Prediction model** using **Python, Pandas, and scikit-learn**, achieving **92%** prediction accuracy and reducing error rate by **18%** compared to baseline models.
- Optimized training pipelines on **AWS (EC2, S3)** and validated model performance, resulting in a **25%** reduction in model training time and increased scalability for real-world deployment

PROJECTS

Nova Nexus AI – AI Research Assistant | FastAPI, React (Vite), Groq API, LLM Orchestration   **Nov 2025 – Feb 2026**

- Built a **production-ready full-stack AI system** integrating **LLM orchestration (Groq API)** with optional **real-time web search grounding**, reducing hallucinations for latest/news queries.
- Designed a scalable backend using **FastAPI**, implementing structured chat completion, context injection, freshness filtering, and dynamic routing between **chat mode and web-grounded mode**.
- Developed a modern **React (Vite) frontend** with conversation memory, strict grounding mode, and dynamic intent detection, enabling live source citation and structured responses.

AI Decision Intelligence & Governance Platform | Python, Scikit-learn, SHAP, Streamlit   **May 2025 - Jun 2025**

- Designed a policy-driven AI decision system simulating regulated enterprise deployment with automated **approve / review / reject decision flows**.
- Implemented **SHAP-based model explainability and disparate impact fairness auditing**, enforcing responsible AI governance standards.
- Built an executive-facing **Streamlit dashboard** to visualize decision outcomes, threshold sensitivity, and bias diagnostics.

CERTIFICATIONS

- AWS Cloud Technical Essentials: Coursera (2025)
- Introduction to AI: Coursera (2025)
- Java (Desktop & Web App Development): Trivia Live Training (2022)
- MERN Full Stack JavaScript Development: Trivia Live Training (2022)
- Google Data Analytics Professional Certificate: Google (2024)