LAKSHYA GUPTA

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EDUCATION

INDIANA UNIVERSITY, BLOOMINGTON — Bloomington, IN
Master of Science in Computer Science — Aug 2024 - May 2026

Guru Gobind Singh Indraprastha University — New Delhi, India
Bachelor of Technology in Computer Science — Aug 2020 - Jul 2024
Grade- 8.05/10

TECHNICAL SKILLS

Languages and Frameworks: Python, Hadoop, Anaconda, Streamlit
Cloud Technologies : AWS, CI/CD, AWS Sagemaker, EC2
Machine Learning & Data Science: NumPy, Pandas, Scikit-learn, TensorFlow, Computer Vision, PySpark
Databases : PostgreSQL, MySQL, SQLite3
Libraries/Platforms/Tools: Jupyter Notebook, Visual Studio, Git, Power BI
Operating Systems & Platforms: Linux

ACADEMIC PROJECTS

EV CHARGING PATTERNS ANALYSIS — Dec 2024

- Analyzed EV charging patterns using **PySpark** and **AWS** (**S3, EC2, SageMaker**) to optimize charging infrastructure and predict energy consumption.
- Cleaned and preprocessed large datasets using **Spark SQL** and **PySpark**, removing duplicates, handling missing values, and deriving new features like charging efficiency.
- Built machine learning models using AWS **SageMaker** Autopilot to predict battery capacity, achieving low error metrics (**WAPE: 1.243, RMSE: 45.687**).
- Visualized insights using Power BI, including energy consumption trends, charging station popularity, and temperature-energy correlations.
- Identified key patterns such as peak charging times, cost-effective charger types, and energy-efficient vehicle models to inform infrastructure planning and user behavior.

EDUNEXUS AI — Nov 2024

Developed during Luddy Hackathon 3.0, Indiana University

- Built a user-friendly interface using **Streamlit** to process natural language requests and display query results seamlessly.
- Optimized **SQL** queries for efficient data retrieval and updates in a backend SQLite database.
- Implemented natural language processing for converting user inputs into structured SQL queries and intelligent error handling for robust performance.
- Collaborated on integrating AI agents (**Ollama, Qwen2.5**) for automated query generation and resolution.
- Employed Python-based tools for frontend development, database integration, and API communication

WORK EXPERIENCE AND FREELANCE PROJECTS

DATA-DRIVEN CONSUMER SEGMENTATION — Jan 2024 – May 2024

- Analyzed platform-specific data to categorize customers based on online behavior. Examined browsing history, search patterns, and webpage interaction times. Using **Scikit learn, Python with Pandas and NumPy, TensorFlow, SQL**.
- Assimilated past purchase behavior, engagement metrics, and demographic information.
- Identified cost-effective methods for client acquisition, reducing expenses through targeted campaigns.
- Specialized in crafting campaigns for lookalike audiences in high-conversion segments.

PRECISION MARKETING STRATGY FRAMEWORK — Sep 2023 – Dec 2023

- Managed data collection, segmentation, and personalization process developing an analytical paradigm using **Sci-kit learn**, **Python, Pandas**, and **NumPy** to target consumers based on past behavior and preferences.
- Designed recommendation systems using platform-specific behavior and predictive models, integrating diverse datasets including user data, macroeconomic and socioeconomic indicators.