ADITYA BANSAL

📞 +91-7878634366 ✉ bansaladitya048@gmail.com ⭘ adityabansal

Education

National Institute of Technology, Agartala	**2023 − 2028**
B.Tech in Computational Mathematics	*CGPA: 7.73*
Amar Public Sr. Sec School, Jaipur	**2021 − 2022**
Senior Secondary (XII)	*Percentage: 82.6%*
Vedanta International School, Jaipur	**2019 − 2020**
Secondary (X)	*Percentage: 80.0%*

Projects

IMDB Sentiment Classifier — Streamlit, TensorFlow, Keras, NLP   Link

− Built a real-time sentiment analysis app with 95% accuracy using an RNN model trained on 50,000 IMDB reviews.
− Preprocessed over 25,000 words with tokenization and sequence padding to fit input length of 500.
− Deployed interactive UI via Streamlit used by 10+ users for feedback and sentiment scoring.

Web Search Chatbot — LangChain, Groq LLaMA3, Streamlit   Link

− Developed a multi-tool chatbot integrated with 3 real-time sources (Wikipedia, Arxiv, DuckDuckGo).
− Handled over 1,000 queries with Groq LLaMA3, showcasing fast inference latency under 500ms per response.
− Tracked agent decision paths in 100% of cases using StreamlitCallbackHandler for transparency.

SQL Query Chatbot — LangChain, LLaMA3, SQLAlchemy, Streamlit   Link

− Developed a Streamlit-based chatbot that enables natural language interaction with academic MySQL databases using LLaMA3 and LangChain agents.
− Engineered robust handling of 20+ SQL query types using LangChain's Zero-Shot ReAct agent and SQLDatabase-Toolkit.
− Ensured database security by using read-only access for SQLite (when applicable) and implementing secure credential management, including masked input for Groq API keys.

Phishing Detection API — Python, ML, FastAPI, Docker   Link

− Achieved 94% phishing detection accuracy using ensemble models trained on 10,000+ labeled records.
− Reduced API response time to <150ms by optimizing FastAPI backend and Docker containerization.
− Automated the CI/CD pipeline using GitHub Actions and DockerHub, enabling seamless containerized deployment.

Achievements

− Solved 90+ algorithm problems on LeetCode to strengthen practical DSA skills.
− Ranked in the top 4 percentile in JEE Mains 2023 (India's premier engineering exam).
− Built a seat demand forecasting model for redBus Hackathon 2025 using LightGBM, advanced DBD-based features, and GridSearchCV, securing Leaderboard Score 669.58 (Rank 175).

Technical Skills

− **Languages:** Python, C++, SQL
− **ML/DL:** TensorFlow, Keras, Scikit-learn, XGBoost, Transformers
− **Databases & Backend:** MySQL, MongoDB, SQLAlchemy, FastAPI, Flask
− **DevOps:** Docker, Git, GitHub Actions
− **Tools:** Streamlit, VS Code, Jupyter, Google Colab, Anaconda

Leadership / Involvement

− **Machine Learning Member, DCC NIT Agartala:** Led 5+ ML workshops and mentored 20+ juniors through project demos and code reviews.