BHARATH GIRIRAJAN

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EDUCATION:

University of Connecticut, School of Business-Hartford, Connecticut. **Aug 2023 – May 2025**
Master of Science in Business Analytics and Project Management (Data Science Concentration)
Anna University - Chennai, India **Sep 2017 – Jun 2021**
Bachelor of Engineering, Electronics and Communication Engineering

PROFESSIONAL EXPERIENCE:

Gen AI Developer (Capstone Project)
Ananda AI, New York, USA. **Aug 2024- Dec 2024**

- Constructed a cutting-edge AI-powered chatbot, TradeGPT (AnandaBot), integrating state-of-the-art models such as Llama3-8b-8192 to provide real-time assistance in cryptocurrency education and enhance overall user interaction experience.
- Implemented a Retrieval-Augmented Generation (RAG) pipeline, integrating proprietary data with Langchain for robust conversational workflows, achieving 90% log traceability and enhanced response accuracy.
- Deployed the chatbot on a cloud-based architecture (Azure) using FAISS and PyPDF, reducing data retrieval time by 40% and boosting system processing speed by 25%.
- Developed a streamlined system with LangChain, automating model inference enhancements and implementing real-time data ingestion; minimised response latency by 25% during peak periods through efficient caching mechanisms.

Database Administrator Intern (Student Worker)
Allied Health Science Department, University of Connecticut, Storrs **Jan 2024 - May 2024**

- Cleaned and standardised over 10,000 student records from multiple sources using Python, improving data accuracy by 25% and established an automated data flow system to optimize data integration.
- Executed the creation of a comprehensive Power BI dashboard to visualize student performance data; enhanced capacity to identify at-risk students by 15%, boosting the effectiveness of intervention strategies department-wide.
- Built and documented a comprehensive data dictionary and back-end architecture for long-term department use, improved manual data processing time by 40% and enhanced data-driven decision-making across departments.

Programmer Analyst
Cognizant Technology Solutions, Chennai (Client: Incomm Payments, Atlanta, USA) **Oct 2021-Jul 2023**

- Collaborated with cross-functional teams to analyze user requirements, design and optimize database schemas, and develop complex SQL queries, improving payment gateway efficiency by 20%.
- Crafted user-friendly REST API interfaces that connected Java applications to SQL databases while supporting high-demand features like barcode generation through SCAN Reload, achieving a transaction efficiency improvement of 15 seconds per request.
- Streamlined database integrations within an Agile environment, optimizing big data workflows and enhancing application reliability by 30%.
- Improved application security by mitigating URI-based threats through regex validation and query optimization, achieving a 100% reduction in vulnerabilities.

ACADEMIC PROJECTS:

AI-Driven ATS Resume Scoring and Automation System (Tools: Python, SpaCy, PyPDF2, PostgreSQL) **Dec 2024 - Jan 2025**

- Devised an AI-powered ATS system leveraging GPT-4, SpaCy, and PyPDF2, achieving 85% accuracy in resume analysis by extracting key candidate details and ensuring a 70% skill match threshold for selection decisions**.**
- Automated 100% of candidate communications using SMTP, EmailTools, and a Custom Zoom API, including selection/rejection emails and interview scheduling, reducing recruitment processing time by 40%.
- Created an integrated real-time scoring system that evaluated resumes within 5 seconds, processing 100+ resumes per hour, and generating detailed feedback on matching/missing skills and candidate experience levels**.**

Prompt Testing Platform for Large Language Models (Tools: GPT-4, Tiktoken, Pandas, Tenacity, Evaluate) **Sep 2024 - Nov 2024**

- Designed and produced a Streamlit-based platform for evaluating LLMs with metrics like Rouge, BLEU, and BERT, enabling precise benchmarking and response quality analysis.
- Implemented CSV-based batch testing, customizable hyperparameter configurations (temperature, top-p, max tokens), and fault-tolerant API integration using OpenAI API and Tenacity.

Insurance Premium Prediction MLOps Project (Tools: Git, MLflow, AWS EC2, Docker) **May 2024 - Jun 2024**

- Constructed a machine learning pipeline to automate insurance premium prediction using models like LinearRidge, XGBoost, and CatBoost, achieving an R^2 score of 0.92.

TECHNICAL SKILLS:

Programming Languages: Python (TensorFlow, PyTorch, sci-kit-learn), Java.
Databases: MySQL, PostgreSQL, Oracle.
Cloud Platforms: Azure (Blob Storage, Data Factory, Synapse Analytics), Data Wrangling, Data Pipelines.
Machine Learning and Visualization: Supervised and Unsupervised Learning, Decision Trees, K-Nearest Neighbors (KNN), Random Forest, Gradient Boosting, Neural Networks (CNNs, RNNs, Transformers), Time-Series Analysis, Natural Language Processing, Feature Engineering, Model Deployment, CI/CD Pipelines, Power BI.
Generative AI: Large Language Models (LLMs), Prompt Engineering, Retrieval-Augmented Generation (RAG), Fine-Tuning LLMs, Hugging Face Transformers, OpenAI GPT APIs, Real-Time Data Streaming.
Coursework: Generative AI, Advanced Data Science, Visual Analytics, Data Management, Statistical Analysis.

CERTIFICATIONS:

- **Microsoft Certified Power BI Analyst (PL-300)** – [Oct 2022]
- **Azure AI Fundamentals (AI-900)** – [Sep 2022]
- **Azure Data Fundamentals (DP-900)** [Aug 2022]
- **Oracle Certified Associate (1Z0-808)** – [Jan 2022]