Hemanth Rayudu

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EDUCATION

Northeastern University **Boston, MA, USA**
Master of Science in Information Systems *GPA: 3.7* Sep 2024 - Dec 2026
Coursework: Data Science Engineering Methods and Tools, Special Topics in Natural Language Engineering Methods and Tools, Application Engineering Development, Concepts of Object Oriented Design

TECHNICAL SKILLS

Programming Languages	Python, R, SQL, Bash, TypeScript, HTML-CSS
Machine Learning/ Analytics	ETL Processes, Data Cleaning and Analysis, Statistical Modeling, LLM, Fine-tuning, Tokenization
Tools and Frameworks	Power BI, Jenkins, Docker, VSCode, JIRA, Git,FastAPI, Postman, Angular, Django, Redis, AWS
Databases	MySQL, PostgreSQL, MongoDB, SQL Server, supabase
Python Libraries/Tools	TensorFlow, Scikit-Learn, PyTorch, NumPy, Pandas, Keras, SciPy, matplotlib, Seaborn
Certifications	Microsoft Azure Developer Associate

WORK EXPERIENCE

Tech Mahindra **Hyderabad, India**
Machine Learning Engineer May 2024 – Aug 2024

- Contributed advanced **ML modeling** to elevate user experiences by 25%, refining predictive algorithms for maximum accuracy and aligning solutions with evolving customer needs across diverse markets for big growth.
- Developed scalable ML frameworks in cybersecurity that cut downtime by 10%, fortifying **data pipelines** for robust **threat detection** and automating processes to sustain reliable high performance ecosystems at scale
- Designed and implemented robust machine learning frameworks to proactively identify potential threats, reducing system downtime by 10%. Leveraged best practices in model deployment to maintain high performance and adaptability in a rapidly changing security landscape.

Freelancer **Hyderabad, India**
Software Engineer Aug 2023 – April 2024

- Delivered **AI-driven** web solutions with chatbots and personalized recommendations, raising conversions by 20% and cutting query resolution by 30%, substantially fueling client satisfaction across diverse markets..
- Built compassdevelopers.in to amplify user engagement by 35% and elevate mobile responsiveness by 25% in new markets, unifying aesthetics, look and feel, and performance for a streamlined, intuitive experience.
- Secured 5-star ratings for AI-driven insights and actionable feedback across Canva, AWS, NetApp, and Google Maps, fueling enhanced user experiences and bolstering credibility in diverse tech ecosystems.

Tata Consultancy Services **Kochi, India**
Machine Learning Engineer March 2021 – June 2023

- Enhanced ML models within AI Studio's no-code platform for **classification, detection, segmentation**, and NLP by optimizing underlying **TensorFlow, Keras, and PyTorch** frameworks, improving efficiency by 20% while maintaining the drag-and-drop simplicity for non-technical users.
- Applied advanced hyperparameter tuning and **GPU-accelerated training** on AWS for AI Studio, reducing training time by 15% and boosting model accuracy by 10% while preserving the code-free experience for business users.
- Deployed AI Studio's scalable machine learning capabilities across **AWS, Azure, and Docker** with 99.9% uptime, lowering infrastructure costs by 10% while ensuring the no-code platform remained accessible.
- Led full-stack development in **Python, Django, and Angular** to enhance AI Studio's visual interface, achieving 20% performance improvements and 30% error reduction while enabling non-programmers to build sophisticated ML solutions without coding.
- Streamlined AI Studio's no-code ML workflows using **Agile methodologies** and optimized **PostgreSQL** database performance by 25%, allowing business users to create production-ready machine learning pipelines 15% faster through an intuitive visual interface.

PROJECTS

Spotify Podcast Recommendation System

- Built an AI-driven system that personalizes podcast recommendations using LLMs by analyzing user listening habits.
- Integrated real-time feedback loops, improving recommendation accuracy by 35% based on user ratings and preferences.

Fine-tuned LLM SQL Generation Analyzer

- Developed a comprehensive web application that benchmarks multiple Large Language Models (LLMs) on their SQL code generation capabilities, including successfully fine-tuned versions of GPT-3.5 Turbo and GPT-4.0 Mini, providing objective performance comparisons across industry-leading AI solutions.
- Created an interactive platform for real-time evaluation of text-to-SQL conversion capabilities, helping users identify the most effective LLM solutions for database query generation and optimization.
- Implemented standardized evaluation metrics including execution accuracy (EX) and efficiency scoring to quantitatively assess SQL query performance, enabling data-driven comparisons of different LLM solutions.