YASHAS CHANDRA BATHINI

yashas144@gmail.com 940-300-2025 Denton, TX - 76207 linkedin.com/in/yashas-chandra-bathini
https://yashas144.github.io/web/

PROFILE

An ambitious and creative graduate in Information Technology with a strong academic background. Motivated and meticulous mindset to complete tasks efficiently and effectively. At present pursuing Master's in Data Science at the University of North Texas. Proficiency in Python, Java, ReactJS, and JavaScript. Project Experience in Building and fine-tuning Artificial Intelligence and Machine Learning models.

EDUCATION

Master of Science - Data Science 08/2024 – 05/2026
University of North Texas Denton, Texas
- **GPA: 4 / 4 CGPA.**
- **Relevant Coursework:** Supervised and Unsupervised Machine Learning Methods, Deep Learning, Foundations of Artificial Intelligence, Software Development for AI-based systems, Neural Network Architecture, Data Visualization, Discovery & Learning with Big Data, and Applied Machine Learning.

Bachelor of Technology - Information Technology 08/2020 – 06/2024
Jawaharlal Nehru Technological University, Hyderabad Hyderabad, India
- **3.7 / 4 CGPA,** Ranked in Top 10 % of class
- **Relevant Coursework:** C, Java, Python, Computer Networks, Data Structures and Algorithms, Software Engineering, Web Application Development, Blockchain Technology, Cyber Security, MySQL, Artificial Intelligence, Machine Learning, Operating Systems, Probability and Statistics, Internet of Things.

SKILLS

Artificial Intelligence / Machine Learning: RAG, Transformers, Hugging Face, Natural Language Processing, Pattern Detection, Clustering, Regression, Ensemble modeling, Forecasting, Tensorflow, Keras, PyTorch, PySpark, and Scikit-learn.

Data Science: Data Wrangling, Data Visualization, Exploratory Data Analysis, Tableau, NumPy, Pandas, Matplotlib and Seaborn.

Programming languages: Python, Java and C

Web application development: React JS, Node JS, JavaScript.

Cloud: Azure

DBMS: Relational and Cloud databases: MySQL

Software Engineering Methodologies: Agile, Scrum

PROJECT EXPERIENCE

AI-Based Sports Analytics Platform 01//2025 – 08/2025

- **Tools & Libraries:** ReactJS, Flask, Scikit-learn, Pandas, MySQL, Axios, Heroku, Git, Chart.js, D3.js
- **Designed and developed** an AI-powered sports analytics web application to analyze and visualize player/team performance using historical soccer data.
- Built a **dynamic frontend with ReactJS**, incorporating interactive dashboards, filters, and stat visualizations (e.g., heatmaps, line graphs, win-rate trends).
- Developed a **Python backend using Flask**, integrating ML models (e.g., XGBoost, Random Forest) for predicting match outcomes, player impact scores, and injury risks.
- Engineered **RESTful APIs** for seamless frontend-backend communication and real-time metric updates.
- Used **MySQL** to store normalized player, match, and team stats data; implemented efficient querying and indexing for scalable analytics.
- Performed **feature engineering and model training** on structured match data; improved prediction accuracy by **18%** using hyperparameter tuning.
- Integrated **D3.js and Chart.js** in React for intuitive visualization of key performance indicators.
- Deployed application on **Heroku** with CI/CD pipeline via GitHub Actions; ensured responsive design and cross-device compatibility.

Sentiment Analysis on Amazon Fine Food Reviews 07/2024 – 12/2024

Sentiment Analysis on Amazon Fine Food Reviews: Key Insights
- **Project Scope**: Developed a sentiment analysis pipeline for 500,000+ Amazon Fine Food Reviews using VADER and RoBERTa, integrated with a React.js front-end for real-time, user-friendly insights.
- **Data Prep**: Cleaned data (missing values, duplicates), normalized text, and balanced classes using SMOTE to handle 75% positive review skew.
- **VADER Model**: Rule-based, fast (<1ms/review), tuned for informal text (emojis, punctuation). Achieved 85% F1-score but struggled with sarcasm/negation.
- **RoBERTa Model**: Fine-tuned with Hugging Face, 92% F1-score, excels at contextual nuances (e.g., "not bad" as positive). Used GridSearchCV, early stopping to optimize.
- **Hybrid Approach**: Combined VADER for speed, RoBERTa for accuracy, boosting overall F1-score to 94% and reducing computation by 40%.
- **Key Findings**:
- **Aspect Insights**: LDA with RoBERTa identified taste (45% of positives), freshness/delivery (key negatives) as critical aspects.
- **Business Impact**: Improved packaging could cut complaints by 25%; tool supports recommendation engines, marketing optimization.

- **UI/UX**: Built responsive React.js dashboard with Chart.js visualizations (pie charts, word clouds), sliders for thresholds, and CSV/PDF export. Accessible and scalable (AWS/Heroku, Docker).
- **Technical Wins**:
- Mitigated noise with language detection, bias in RoBERTa (5% positive skew) via balanced fine-tuning.
- Reduced RoBERTa latency from 500ms to 50ms using ONNX quantization.
- Demonstrated Python (NLTK, PyTorch), Git, CI/CD proficiency.

INTERNSHIP EXPERIENCE

Artificial Intelligence / Machine Learning Internship 06/2023 – 06/2024
Nexus Info
Research Project: Building a Generative Adversarial Network using Image Synthesis
Research paper: https://ijsrem.com/download/building-a-generative-adversarial-network-for-image-synthesis/
- **Tools & Technologies**: Python, Deep Learning, Neural Networks, Variational Autoencoders, TensorFlow, PyTorch, Stable Diffusion Pipeline.
- Designed and implemented a Generative Adversarial Network (GAN) for high-quality image synthesis using deep learning frameworks such as TensorFlow and PyTorch. Documented findings in a peer-reviewed research publication accepted by IJSREM.

Project: Smart Travel Planner - Multi Agent System using RAG

Link: https://github.com/yashas144/Smart_Travel_Planner

- **Tools & Technologies:** Python, Flask, REST APIs, Google Gemini API, Retrieval Augmented Generation(RAG), React JS, HTML, CSS.

- Developed a full-stack, AI-powered travel planner using a Python microservices architecture and a React.js frontend to deliver intelligent, resilient, and context-aware trip itineraries.

Key Achievements
- **Microservices Architecture**: Designed and built a backend with Flask, featuring an API orchestrator that delegates tasks to specialized, independent agent services for flights and knowledge retrieval.
- **Retrieval-Augmented Generation (RAG)**: Engineered a RAG pipeline using the Google Gemini API to deliver fact-grounded, context-aware AI travel recommendations based on a custom knowledge base.
- **Full-Stack Development**: Delivered a complete application with a responsive React.js frontend that consumes a RESTful Python API, ensuring seamless integration with CORS handling.

CERTIFICATIONS

Machine Learning with Big Data
Coursera

Introduction to Data Science
Cisco

Career Essentials in Generative AI
Microsoft and LinkedIn

Python Essentials - 1
Cisco