BHARATHI THANIKONDA

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Summary:

Passionate and results-driven professional with expertise in AI and software development. Experienced in hosting LLMs and building AI-powered chatbots and web applications. Skilled in Python, FastAPI, LangChain, and Hugging Face, with hands-on experience in web scraping and RAG pipelines. Proficient in data structures, databases, and AWS, with a focus on developing scalable, end-to-end solutions.

Skills

- Programming Languages - Python, Java, C#, C, R
- AI Technologies – LangChain, Prompt Engineering, LLMs, OpenAI, Ollama, Crew AI, RAG, Fine-tuning, PyTorch, TensorFlow.
- Web Development - FastAPI, HTML, CSS, Java Script, Flask, Node JS.
- Databases –MYSQL, PostgreSQL, Amazon RDS, Big Query, MSSQL, MongoDB, ChromaDB
- Other Skills –Jenkins, Linux, ETL, AWS, Data Structures, Git/GitHub, Quick Sight, Power BI, Swagger, Postman, Heroku

Experience

Texas Tech University - Lubbock, Texas **May 2025 – Present**

AI Engineer (Graduate Assistant)

- Developed AI-powered applications using FastAPI, integrated with LangChain, pgvector, and Hugging Face models to build domain-specific chatbots for students and faculty to query TTU policies using natural language.
- Integrated RAG-based AI agents with OpenAI and Sentence Transformers to enable multi-step reasoning and real-time semantic search, secured with SAML-based authentication for protected access to compliance and query systems.
- Engineered data pipelines using BeautifulSoup and Scrapy to ingest and preprocess unstructured documents, generated vector embeddings with OpenAI and Sentence Transformers, deployed on NVIDIA GPU infrastructure for low-latency inference.

HCL Software - Bangalore, India

Senior Software Engineer **Aug 2023 -July 2024**

- Developed and implemented Python scripts to integrate BigFix with ServiceNow, enhancing bidirectional data flow and automating workflows. Utilized APIs from both platforms to efficiently transform and synchronize data.
- Loaded and validated data from BigFix into MSSQL to perform advanced querying and analysis, enabling comprehensive insights into vulnerabilities. Automated report creation and generated detailed reports using Power BI.
- Created an ETL to extract data from Tenable.io, Tenable.sc, and Qualys, integrating this data into BigFix to identify vulnerabilities and generate fixlets for their remediation. Implemented NT authentication feature in Bigfix to enable secure user access to MSSQL.
- Performed end-to-end testing, including functional, integration, and regression testing, by developing and running automated test suites in Python using PyTest and unittest, with assertions for data validation, API response testing, and database verification

Amazon - Chennai, India

System Development Engineer Intern **Jan 2023 – June 2023**

- Automated the process of uploading reports to the S3 using Perl, reducing monitoring efforts from approximately 16 hours to near zero. Analyzed logs from AWS CloudWatch and Lambda using JavaScript to generate actionable insights and created detailed graphs to visualize results, for easy real-time monitoring.
- Designed and executed complex SQL queries to extract data from Amazon RDS, Redshift utilizing the information to build timeliness dashboard in AWS Quick Sight, to track and ensure the on-time delivery of month-end activities to customers.
- Migrated a critical service from one environment to another, modifying the entire codebase using Java for better security and scalability. Managed EC2 instances, VPCs, and other AWS resources to securely deploy projects and monitor logs for debugging.

Knowledge solutions India. (Virtual)

Data Science Intern **June 2021- July 2021**

Implemented Logistic Regression model for heart disease prediction which includes data cleaning by handling missing values, normalizing numerical features and applying feature selection techniques. The model achieved an impressive 95% accuracy.

Projects

- **Automated Code Review Assistant** **June 2025 - Aug 2025**
  Developed an AI-powered code review automation tool leveraging a T5 dual-encoder Transformer for joint encoding of Java methods and reviewer comments. Engineered end-to-end NLP and code processing pipelines including AST-based method extraction, identifier abstraction via src2abs, and semantic code transformation generation using beam search decoding.
- **Analysis of Twitter Sentiments using Machine Learning Algorithms** **Sept 2024 - Nov 2024**
  Developed a sentiment analysis pipeline to classify tweets into positive and negative categories using supervised machine learning techniques. Preprocessed and vectorized textual data using NLP techniques (tokenization, TF-IDF), and trained models including SVM, Logistic Regression, and Random Forest. selected the best-performing model for robust sentiment classification.
- **Real-Time Chat Application** **Feb 2023 – May 2023**
  Built a real-time chat application using Node.js, Express.js, and Socket.IO. Implemented WebSocket-based communication for instant messaging chat room handling. Designed responsive front-end with HTML, CSS, and JavaScript for user interaction.

Education:

M.S – Computer Science **Aug 2024 – May 2026**

Texas Tech University, Lubbock, Texas GPA – 3.8/4

B.Tech - Computer Science and Engineering **Aug 2019 – June 2023**

R.V.R & J.C College of Engineering, Guntur CGPA – 9.61

Certifications:

Google Data Analytics (Coursera), Data Analytics with Python (IIT Roorkee), Python for Data Science (IIT Madras), AWS Cloud Foundations