Sai Sri Harsha Guddati

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WORK EXPERIENCE

Tata Consultancy Services   **Aug. 2022 – Dec. 2023**
Research and Development Software Engineer   *Hyderabad, INDIA*

- **Designed and deployed** cloud-based backend systems using Python (Flask, FastAPI), and front end using REACT achieving a **35% improvement in processing efficiency** and ensuring scalability across enterprise applications.
- **Streamlined cloud operations** by containerizing applications with Docker and orchestrating deployments using Kubernetes on Azure App Services, resulting in a **20% reduction in latency**.
- **Led AI-powered projects leveraging Large Language Models (LLMs)** integrated with **Pinecone**, **Flask**, and the **OpenAI API** for advanced use cases like **programming language conversion, image analysis, and text recognition**. Built a scalable **REST API** and a **web interface** and deployed it using Azure cloud, achieving a **40% improvement in up-time**. Developed solutions using **YOLO models** for object detection and **PyTesseract** for OCR, processing **10,000+ images and text documents** with robust testing frameworks like **Pytest**, ensuring **98% code coverage** and seamless deployment.
- **Enhanced AI performance** by integrating Vector Databases for custom knowledge bases and applying model fine-tuning, achieving a **25% boost in predictive accuracy**.
- **Optimized database performance** for PostgreSQL and MSSQL by implementing advanced indexing techniques, reducing query execution times by up to **50%**.
- **Automated workflows** with machine learning algorithms (classification, clustering, regression) using Python frameworks (TensorFlow, PyTorch), increasing operational efficiency by **35%**.
- **Collaborated with cross-functional teams** to develop and deploy high-performance applications on Azure, ensuring reliability, scalability, and adherence to industry best practices.

Internshala   **Jan. 2021 – Sep. 2021**
Cloud Engineer   *Hyderabad, INDIA*

- **Developed a web application** to monitor application load and usage, reducing response time to performance issues by **30%** through real-time tracking and analytics.
- **Enhanced system reliability** by conducting comprehensive testing and identifying critical bugs, leading to a **25% reduction in downtime** and improved user satisfaction.

EDUCATION

University Of Florida   **Jan. 2024 – Present**
Master of Science, Computer Science   *Gainesville, FL*

- **Achieved a 3.85 GPA**, demonstrating academic excellence in advanced computer science coursework.
- **Designed** and developed a Python-based text redaction system processing **1,000+ .txt files** using **spaCy for NER** to redact names, dates, phone numbers, addresses, and custom concepts. **Achieved 95% precision with regex** for phone numbers and concept removal. Generated output in under 3 seconds/file with .censored extensions and provided redaction statistics. Validated functionality with a pytest suite ensuring **100% test coverage.**
- **Developed a machine learning pipeline in Python** using **Logistic Regression** with **NLTK** and **CountVectorizer** to predict redacted names in textual contexts, achieving an **F1-score of 93%** on validation data; processed datasets with **over 5,000 rows** using tab-separated files, implemented **end-to-end testing with Pytest at 95% coverage**, and automated predictions for unseen contexts with a dynamically generated **TSV output**.
- Developed a **Flask-based web application** to extract, process, and visualize incident data from PDFs, leveraging regex for data parsing, **SQLite to store and query 10,000+ records**, and Matplotlib/Seaborn to generate 50+ dynamic visualizations, with **95% test coverage** using Pytest and deployment in a **Pipenv-managed environment**.

SKILLS AND ACHIEVEMENTS

- **Programming:** Python (Advanced), Java (Moderate), C++, Bash/Unix.
- **Frameworks:** Flask, FastAPI, PyTorch, TensorFlow, React, Angular.
- **Cloud:** Azure, Google Cloud, Azure Kubernetes, Azure ML Studio.
- **Data Tools:** NumPy, Pandas, PostgreSQL, MSSQL, PL/SQL.
- **Dev Tools:** Docker, Git, REST APIs, Microsoft PowerApps, Azure Vertex AI, Agile Methodologies.
- **Machine Learning:** YOLO, LLMs, Prompt Engineering, AI/ML Algorithms (Regression, Classification, Clustering), NLP.
- **Web:** HTML, CSS, JavaScript, Responsive Design, Networking Protocols.
- **Management:** Team Collaboration, Leadership, Data Management.
- **Google & Azure:** Certified Associate Cloud Engineer, Azure Fundamentals.
- **NPTEL, Coursera:** Certified in Data Science with Python, Python Programming.
- **State Government of India:** Excellence Award for outstanding performance in Board Examinations.