Pavan Sundar Reddy Guthikonda

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PROFESSIONAL SUMMARY

Results-driven Data Science Intern with hands-on experience in machine learning, time-series data analysis, and statistical modeling. Proficient in Python, SQL, and cloud platforms including AWS and Azure. Adept at building predictive models using logistic regression, clustering, and neural networks, and deploying solutions via microservices in containerized environments.

TECHNICAL SKILLS

Programming & Scripting Languages: Python, C++, Java, SQL, R, JavaScript, PHP, HTML, CSS, Shell Scripting
Data Science & Machine Learning: Scikit-learn, TensorFlow, PyTorch, Keras, Hugging Face Transformers, TF-IDF, Gensim, Feature Engineering, Model Evaluation
Big Data & Analytics: PySpark, Apache Kafka, Hadoop, HDFS, Power BI, Tableau, Matplotlib, Seaborn, Pandas, NumPy
Databases & Data Engineering: MySQL, SQLite, MS SQL Server, MongoDB, Apache HBase, NoSQL, Data Cleaning & Preprocessing, ETL Pipelines
Software Engineering & Dev Tools: Data Structures & Algorithms, Git, Linux, CI/CD Pipelines, REST APIs, JIRA, VS Code, Agile/Scrum, Streamlit
System & Network Concepts: Operating Systems, Multithreading, Socket Programming (exposure), Computer Networks (coursework), Microservices, Docker, Kubernetes
AI/ML & Data Science: Scikit-learn, TensorFlow, PyTorch, Keras, Hugging Face Transformers, Clustering, Regression, Neural Networks
Cloud & Infrastructure: AWS (EC2, S3), Azure, Google Cloud, Databricks, FastAPI, Flask
Data Analytics & Visualization: Tableau, Power BI, Matplotlib, Seaborn, Pandas, NumPy

PROFESSIONAL WORK EXPERIENCE

Software Engineer **Jul 2021 – Jun 2023**
Impelsys Private Limited – Bengaluru, India

- Collaborated in Agile Scrum teams to break down user stories into tasks and estimate effort, improving overall sprint efficiency.
- Oversaw project task management and timely delivery for Laerdal's healthcare applications.
- Refactored over 30% of the RQI1Stop app's legacy codebase, improving code readability, maintainability, and reducing technical debt.
- Contributed significantly to the development of the RQI1Stop app, supporting digital resuscitation training programs.
- Led data validation and ETL processes, maintaining high dataset accuracy and enabling better decision-making in healthcare analytics.
- Optimized SQL queries and database performance using indexing strategies in MySQL via phpMyAdmin.
- Improved API and database query efficiency, significantly reducing response times and supporting smoother frontend-backend integration.
- Integrated AWS services (e.g., EC2) for scalable cloud deployment and storage, ensuring system stability under high usage.

Programmer Analyst Trainee **Jan 2021 – Apr 2021**
Cognizant Technology Solutions – Hyderabad, India

- Automated functional test scripts using UFT, streamlining testing workflows and reducing execution time.
- Conducted data-driven testing to validate critical business logic in booking and payment modules, ensuring high reliability across use cases.
- Performed extensive regression testing across multiple modules to maintain system integrity during production releases.
- Collaborated with QA and development teams to analyze test results and enhance testing frameworks for improved coverage and efficiency.

EDUCATION

University of Missouri - Kansas City, Missouri, USA (GPA: 3.57/4) **Aug 2022 – Ongoing**
Master of Science: Data Science & Analytics

SRM Institute of Science and Technology, Chennai, India (GPA: 8.34/10) **Jul 2017 – May 2021**
Bachelor of Technology: Computer Science and Engineering

TECHNICAL PROJECTS

WanderTales – AI-Powered Travel Recommendation & Storytelling Platform **Mar 2025**

- ***Backend Architecture:*** Developed microservices using FastAPI to serve real-time travel recommendations and dynamic AI-generated narratives.
- ***API Integration:*** Integrated multiple third-party APIs (Google Places, OpenWeatherMap, Amadeus, SerpAPI) to enrich user itineraries with live contextual data.
- ***LLM-Based Story Generation:*** Deployed GPT-based large language models via Hugging Face Transformers to generate personalized, adaptive travel stories.
- ***System Optimization:*** Implemented asynchronous API calls, caching layers, and rate-limit handling to ensure high availability and responsive performance.
- ***Visualization & UI Integration***: Enabled interactive storytelling views using Streamlit, dynamically rendering location data and generated narratives.

MedQueryPro – AI Medical Assistant **Nov 2024**

- ***Real-Time Healthcare Query Processing***: Developed an AI-powered system using LLAMA and other LLMs, providing real-time medical responses via Hugging Face's API, achieving relevant responses within 2 seconds.
- ***AI Model Integration and Fine-Tuning***: Integrated LLAMA (3.2-3B) for healthcare insights and fine-tuned on domain-specific data, improving response relevance by 30% and reducing incorrect information by 20%.
- ***Role-Based Authentication and Authorization***: Implemented a role-based access control (RBAC) system with JWT token authentication to manage secure user access for over 500+ patients, doctors, and medical assistants.
- ***Doctor Availability and Appointment Scheduling System***: Created a doctor availability system using SQLite, enabling real-time appointment scheduling, and handling many appointments weekly.
- ***End-to-End Data Privacy and Security:*** Ensured secure data transmission with HTTPS and AES encryption, achieving 100% GDPR-compliant privacy, and guaranteeing no retention of personal user data.

Data Analysis on Anime Recommendation System **Dec 2023**

- ***Data Analysis***: Evaluated MyAnimeList data from 3.4M+ users to uncover anime preferences and trends, offering actionable audience insights.
- ***Visualization with Tableau***: Designed 10+ interactive dashboards to display insights from the dataset, improving understanding of user engagement patterns by 30%.
- ***Collaborative Filtering***: Applied PySpark's collaborative filtering algorithms to enhance recommendation accuracy by 25% through user similarity analysis.
- ***Efficient Data Processing***: Processed 10GB+ of data using HDFS and Parquet format, reducing storage overhead by 40% and ensuring efficient retrieval for scalability.

CONFERENCE PAPER & ARTICLE PUBLICATIONS

Driver Drowsiness Detection and Alerting Model for Minimizing Road Accidents **Nov 2023**

R. Sathya, D. Sai Surya Harsha, M. Gopala Krishna, ***G. Pavan Sundar Reddy***, P.S. Arhith

IoT-Based Driver Drowsiness Detection & Alerting System Using Haar Cascade & Eye Aspect Ratio Algorithms **Dec 2021**

R. Sathya, D. Sai Surya Harsha, ***G. Pavan Sundar Reddy***, M. Gopala Krishna

Assessment of Chronic Kidney Disease using Classification Algorithms **Nov 2019**

Feiroz Khan T.H, ***G. Pavan Sundar Reddy***, D. Sai Surya Harsha, M. Gopala Krishna