Durgamalleswarao Ponnuru

+1 (313) 478-2685 | durgaponnuru3@gmail.com

Open to relocate | Open to Onsite/C2H/W2 positions

Professional Summary

Data Engineer / MLOps specialist with 4+ years of experience in agile environments, designing scalable data pipelines, deploying AI/ML models in distributed computing environments (AWS, Azure, GCP), and fine-tuning LLMs. Proficient in Python, SQL, Spark, and MLOps tools (Docker, Kubernetes, CI/CD), with a strong focus on leveraging advanced analytics and forecasting techniques to solve ambiguous business problems and enhance operational efficiency.

Key Skills

Programming: Python, SQL, C/C++, Java, PySpark
Cloud & Big Data: AWS, Azure, GCP, Databricks, Snowflake, Spark, Hadoop, HDFS, Kafka, Airflow
Tools: Docker, Kubernetes, GitHub, MLflow, TensorFlow, PyTorch
Data Processing: SSIS, Informatica, Jenkins, Glue

Professional Experience

Tata Consultancy Services — Jan 2021 - Aug 2022

Position: Data Engineer / Data MLops

- Collaborated in an agile environment to optimize end-to-end MLOps pipelines including data ingestion, transformation, model training, and monitoring across distributed computing environments.
- Developed and deployed machine learning models using Random Forest, SVM kernels, and KNN, enhancing deployment spped and model accuracy by implementing CI/CD workflows with GitHub Actions.
- Enhanced forecasting models and conducted demand analysis using ensemble techniques, improved prediction accuracy by 15% and applied modeling techniques to inform strategic business decisions, optimizing resource allocation & anomaly detection.
- Utilized statistical and simulation techniques to evaluate multiple scenarios, providing data-driven insights to support new product introductions and pricing strategies.
- Collaborated with cross-functional teams to integrate machine learning models into frontend applications, optimizing real-time predictions and user interface responsiveness using React.
- Defined and monitored SLAs for pipelines, ensuring compliance, data quality, and system reliability across cloud environments.
- Collaborated with software development teams to design microservices for model inference using Python and Docker.

Indian Servers Pvt. Ltd. — Apr 2019 - Dec 2020

Position: Associate Data Engineer

- Designed and optimized Hadoop/Spark data pipelines and ETL processes, improving data processing speed by 30% and enhancing data governance.
- Engineered and optimized Hadoop/Spark data pipelines in distributed computing environments, improving data processing speed by 30% and enhancing data governance.
- Automated deployments via CI/CD workflows with Argo CD and GitHub Actions, ensuring consistent model updates.
- Integrated cloud-based storage solutions with ML pipelines, optimizing data access and enhancing system scalability to meet high-demand processing requirements.

Indian Servers Pvt. Ltd. — Aug 2018 - Mar 2019

Position: Jr. Data Analyst

- Optimized ETL pipelines using Talend, Apache NiFi, and SQL to automate data integration and transformation workflows.
- Performed data cleaning, validation, and analysis using Python, enabling actionable insights for business stakeholders.
- Designed interactive Tableau dashboards and supported ad-hoc reporting to drive data-informed decision-making.
- Contributed to database design, query optimization, and API-based data ingestion to support scalable analytics infrastructure.
- Collaborated in Agile teams using Jira and Git, while documenting workflows and ensuring data security and compliance.

Academic Projects

Cloud Data Pipeline Architecture: Delivered a scalable AWS data platform that transforms raw information into business intelligence through automated pipelines and self-service analytics capabilities.
Realtime Data Processing: Implemented a real-time data streaming solution using Apache Kafka and Spark, reducing data latency from hours to seconds.
ML Model Deployment: Collaborated with data science teams to deploy predictive models into production, enhancing business decision-making.
Robust ML Model Training Framework: Implemented data augmentation techniques and alignment regularization to enhance model robustness and generalization, integrated with automated CI/CD and re-training pipelines.
Real-Time Helmet Detection System: Developed a real-time surveillance system using OpenCV and machine learning to detect motorcyclists with and without helmets, achieving 87% accuracy.

Education

University of Michigan - Dearborn	M.S. in Data Science	**Aug 2022 - Apr 2024**
VR Siddhartha Engineering College	B. Tech in Computer Science	**Aug 2016 - May 2020**

Publications

- **Published paper** in an International Conference on Smart Electronics and Communication (**ICOSEC**), 2020, DOI: 10.1109/ICOSEC49089.2020.9215415.