PAVAN KALAM
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PROFESSIONAL SUMMARY

Machine Learning Engineer with 4+ years of experience designing, building, and deploying production-grade machine learning systems across enterprise environments. Strong background in Python, SQL, and cloud-native ML platforms with hands-on experience in AWS SageMaker, model training, inference APIs, and MLOps pipelines. Proven ability to translate business problems into scalable ML solutions, optimize model performance, and ensure reliability through monitoring, automation, and best practices in deployment.

EXPERIENCE

Machine Learning Engineer | Aircom Systems Pvt Ltd, India   *Aug 2022 – Dec 2023*

- Designed, trained, and operationalized machine learning models using AWS SageMaker, applying feature engineering, cross-validation, and hyperparameter tuning to improve forecasting accuracy by 18–22%.
- Built end-to-end ML pipelines for data preprocessing, training, evaluation, and deployment using Python, Scikit-learn, TensorFlow, and PyTorch.
- Developed and launched real-time RESTful inference APIs using Flask and FastAPI, handling 5K+ daily prediction requests with low-latency responses.
- Automated model retraining, versioning, and deployment workflows using Apache Airflow, reducing model update cycles by 50%.
- Containerized ML workloads using Docker and rolled out scalable inference services on AWS ECS/ECR, achieving 99.9% uptime.
- Implemented model performance monitoring, latency tracking, and data drift detection using Amazon CloudWatch and custom metrics, reducing production issues by 35%.
- Optimized feature pipelines and data access patterns using PostgreSQL and cloud-native storage layers, reducing preprocessing time by 40%.
- Collaborated with data engineering and DevOps teams to integrate ML pipelines with AWS Glue, Redshift, Lambda, and IAM workflows.

Data Scientist | Tata Consultancy Services (TCS), India   *Apr 2021 – Jul 2022*

- Performed exploratory data analysis (EDA) and feature engineering on structured enterprise datasets using Python, Pandas, and NumPy.
- Built, evaluated, and tuned predictive models using Scikit-learn and XGBoost, applying cross-validation and appropriate evaluation metrics.
- Developed batch inference and analytical workflows integrated with AWS Athena and Glue, improving turnaround time for model-driven insights.
- Worked closely with clients to translate business problems into data science solutions and measurable outcomes.
- Assisted in model performance analysis, feature selection, and robustness testing to improve predictive accuracy.
- Documented data science workflows, experiments, and assumptions to support reproducibility and auditability.

Data Analyst → Machine Learning Engineer | Persistent Systems, India   *Nov 2019 – Mar 2021*

Data Analyst (Nov 2019 – May 2020)

- Analyzed and transformed structured datasets using SQL and Python, supporting reporting, KPI tracking, and business intelligence use cases.
- Built dashboards and analytical reports using Power BI and Tableau, enabling data-driven decision-making for stakeholders.
- Performed exploratory data analysis (EDA) to identify trends, anomalies, and data quality issues.

Machine Learning Engineer (Jun 2020 – Mar 2021)

- Performed feature engineering and dataset preparation using Pandas and NumPy to support machine learning workflows.
- Built and evaluated baseline machine learning models using Scikit-learn, contributing to proof-of-concept ML solutions.
- Automated data preprocessing and training workflows using Python-based pipelines, reducing manual effort by 30%.
- Queried analytics datasets using AWS Athena and supported ETL processes via AWS Glue for ML experimentation.

TECHNICAL SKILLS:

- **Programming Languages:** Python, JavaScript, SQL, R
- **Data Analysis & Visualization:** Power BI, Tableau, Pandas, NumPy, Matplotlib, Seaborn, Plotly
- **Machine Learning & AI:** Transformers, TensorFlow, PyTorch, Scikit-learn, Keras, OpenCV, XGBoost
- **Cloud Platforms & Agentic AI:** AWS, Google Cloud Platform, Microsoft Azure, N8N, RAG, SageMaker, AWS ECS/ECR, AWS CloudWatch, IAM
- **Database Management:** PostgreSQL, MySQL, MongoDB, Redis
- **Web & API Development:** Flask, FastAPI, React.js, Gradio, REST APIs
- **DevOps & MLOps Tools:** Docker, Kubernetes, Git, GitHub Actions, AWS CodePipeline

EDUCATION

University of Missouri-Kansas City   *Kansas City, MO*
Master of Science in Computer Science   *Jan 2024 – Dec 2025*