Nikhila Madhunala

nikhilamadhunala01@gmail.com | 304-460-5482 | linkedin.com/in/nikhila-madhunala

Professional Summary

Machine Learning Platform Specialist skilled in orchestrating workflows across AWS, Azure, and GCP. Proficient in Python, Terraform, and Kubernetes, with expertise in distributed systems and model training. Delivers scalable infrastructure that accelerates ML innovation and reliability.

Education

Master's in Business Analytics
University of North Texas, Denton, TX – December 2024

Bachelor of Technology in Computer Science
CMR College of Engineering and Technology, India – August 2021

Technical Skills

Programming: Python, Go, C++, SQL, Terraform, Kubernetes, Docker, Git

Data Engineering: Distributed systems, model training

Databases: BigQuery, Snowflake, Redshift

Cloud: Amazon Web Services (EC2, S3), Google Cloud Platform (BigQuery, Vertex AI), Microsoft Azure

DevOps: Kubeflow, MLflow, MLOps

Analytics/ML: Machine learning, reinforcement learning

Practices: Collaboration, communication, leadership, observability, optimization, ownership, prototyping, reliability, research, scalability

Professional Experience

ML Platform Specialist Intern
Next Era Path *Feb 2025 – Present*

- Built distributed training platforms using TensorFlow and PyTorch on Kubernetes. Reduced training time by 40% while enabling larger model experiments to scale efficiently across nodes and clusters without performance degradation.
- Integrated MLflow tracking with Kubeflow Pipelines for experiment management. Streamlined reproducibility and lifecycle tracking, empowering teams to manage workflows consistently across ML development and deployment processes.
- Monitored infrastructure health with Prometheus and Grafana dashboards. Proactively identified failures, maintained system reliability, and supported timely resolutions to minimize disruption to ML pipelines in production systems.
- Led workshops on orchestration, workflow design, and best practices for Kubernetes clusters. Trained engineers in scalability methods and improved organizational efficiency in adopting cloud-native ML orchestration solutions.

ML Platform Specialist
Infosys (Client: Westpac) *Jan 2021 – Dec 2022*

- Implemented Infrastructure as Code solutions with Terraform for AWS, Azure, and GCP. Standardized provisioning processes and automated infrastructure, reducing manual errors and accelerating environment delivery for ML teams.
- Deployed ML models to Vertex AI and AWS SageMaker with auto-scaling capabilities. Ensured consistent system performance under peak loads, improved availability, and streamlined deployments across hybrid environments.
- Collaborated with platform, product, and data engineering teams to align cloud infrastructure with business needs. Delivered solutions that balanced cost, scalability, and reliability to support production-ready ML services.

- Conducted cloud cost optimization workshops and provided strategies for right-sizing resources. Reduced infrastructure spend while maintaining operational performance and increasing efficiency across cloud-based ML workloads.

ML Platform Specialist Intern
Powersoft Global Pvt Ltd *May 2020 – Aug 2021*

- Researched and developed reinforcement learning algorithms for recommendation engines. Increased user engagement by adapting personalization models dynamically to improve relevance for diverse customer segments and markets.
- Built reproducible RL experiments and workflows with Kubernetes orchestration. Automated training loops and evaluations, ensuring consistency and scalability in developing advanced recommendation system prototypes.
- Partnered with product teams to demonstrate business value of RL-based recommendation strategies. Translated research results into actionable features, increasing adoption of AI-driven personalization initiatives within the platform.
- Presented reinforcement learning approaches and architectural results to stakeholders. Educated teams on potential applications of RL and aligned technical innovation with strategic growth and customer-focused business objectives.

Projects

Capstone: Predicting Vehicle Recalls from Complaint Data Aug 2024 – Dec 2024
Inherited fragmented data pipelines across AWS, Azure, and GCP that caused duplication of effort. Consolidated infrastructure into unified pipelines for training and deployment. Delivered a single platform that improved scalability and reduced maintenance costs.
Implemented CI/CD pipelines integrating Kubeflow and MLflow for continuous training and deployment cycles. Automated testing, validation, and release approvals. Significantly shortened model release cycles and increased business agility.
Drove adoption of observability practices by integrating monitoring with Prometheus and Grafana. Enabled teams to proactively track model drift and infrastructure health. Reduced time-to-detect and resolve issues, enhancing reliability.
Acted as a mentor for engineers transitioning into MLOps roles. Provided hands-on guidance in containerization, distributed computing, and cloud cost optimization. Built a knowledge-sharing culture that elevated overall technical maturity.