Nikhila Madhunala

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

Professional Summary

Machine Learning Researcher skilled in deep learning, reinforcement learning, and collaborative analytics. Proficient in Python, NumPy, Pandas, and PyTorch with experience on AWS and Snowflake. Passionate about solving real-world problems and driving cross-disciplinary collaboration for impactful AI solutions.

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, C++, NumPy, Pandas, PyTorch, R, Scala, SciPy, Git

Data Engineering: Model deployment, model evaluation, model training

Databases: Snowflake

Cloud: Amazon Web Services (S3, EC2), Microsoft Azure

DevOps: MLOps

Analytics/ML: Deep learning, reinforcement learning, experimentation, machine learning

Practices: Collaboration, communication, optimization, ownership, research

Professional Experience

ML Researcher Intern
Next Era Path *Feb 2025 – Present*

- Conducted reinforcement learning research for dynamic pricing strategies. Achieved 10% revenue uplift by building adaptive models that optimized decision-making, balancing customer satisfaction and long-term business profitability.
- Collaborated with domain experts and analysts to interpret RL outputs. Ensured strategies were aligned with market dynamics and business goals, enabling executives to adopt AI-powered pricing recommendations confidently.
- Implemented reproducible research pipelines with Docker and Jupyter. Enabled peer review, simplified collaboration, and established processes that ensured consistent reproducibility for all reinforcement learning experiments.
- Presented reinforcement learning findings in workshops for non-technical teams. Fostered organizational understanding of complex concepts and built stakeholder confidence in adopting advanced ML-driven decision-making.

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

- Designed deep neural networks for image and signal processing tasks. Delivered 35% accuracy improvements over baseline models, significantly enhancing system performance for production-scale ML applications.
- Leveraged AWS EC2 and Snowflake to run large-scale training experiments. Ensured secure and scalable infrastructure for deep learning workloads, enabling teams to operate at production-relevant scale.
- Collaborated with analysts and engineering teams to refine deep learning pipelines. Delivered actionable insights and enabled faster model iteration cycles to align with evolving business objectives and requirements.
- Contributed to open-source libraries and internal frameworks for deep learning. Improved tooling and reduced duplicated efforts, raising engineering efficiency and fostering stronger collaboration across the research organization.

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

- Identified bottlenecks in existing ML workflows and introduced optimized pipelines. Reduced compute spend by 15% without compromising performance, improving efficiency of large-scale ML operations in production.
- Partnered with teams across data, analytics, and product functions. Enhanced collaboration through shared workflows that combined technical expertise with domain knowledge to deliver impactful AI-driven results.
- Documented key ML methodologies and data workflows for organizational use. Improved transparency, reproducibility, and knowledge sharing while supporting onboarding for engineers and researchers joining ML projects.
- Led peer engagement sessions and technical workshops to highlight ML optimization practices. Shared advancements broadly, improving adoption of efficient workflows and fostering continuous organizational learning.

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.