


Yaxita Amin

B.E in information technology 2024 | M.S in Machine Learning 2026

Hardworking, proactive individual committed to continuous growth

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 College Park, USA

EDUCATION

Master Of Science - Applied Machine Learning

University Of Maryland College Park

08/2024 - Present

College Park USA

- Optimization
- Machine Learning
- Data Science
- Predictive Modeling

Bachelor of Engineering - Information Technology

Vishwakarma Government Engineering College
Ahmedabad

08/2020 - 06/2024

Ahmedabad India

- Database Systems
- Operating Systems
- Statistics
- Programming

PERSONAL PROJECTS

LeafDoctorAI: Plant Disease Detection System Personal Project - Deep Learning for Agriculture (11/2024)

- Developed plant disease detection system using MobileNetV2 architecture achieving 88.20% accuracy
- Implemented comprehensive data augmentation pipeline for improved model robustness
- Designed efficient model architecture using transfer learning from ImageNet
- Technologies: TensorFlow, MobileNetV2, Transfer Learning, Data Augmentation

BERT Model Compression Suite Personal Project - Machine Learning Optimization (01/2025)

- Designed and implemented compression pipeline reducing BERT model size by 80% (440MB to 90MB)
- Achieved 47% lower inference latency while maintaining 91.5% of original model performance
- Optimized training pipeline resulting in 69.2% reduction in training time (13 hours to 4 hours per epoch)
- Deployed on AWS EC2 with automated scaling and performance monitoring
- Technologies: PyTorch, Transformers, AWS EC2, Weights & Biases

EV Charging Infrastructure Analytics Dashboard Personal Project - Data Analytics & Visualization (02/2025)

- Developed interactive dashboard analyzing U.S. EV charging infrastructure using DOE's Alternative Fuels Data Center dataset
- Engineered data pipeline to process and standardize nationwide charging station data from 1995-2025
- Created geospatial visualizations revealing infrastructure distribution patterns across urban and rural regions
- Technologies: Python, Tableau, Geospatial Libraries, Advanced Data Visualization

Virtual Memory Profiling for ML Models - Machine Learning Optimization (05/2025)

- Developed comprehensive memory profiling tool to analyze and compare memory usage patterns across TensorFlow and PyTorch frameworks
- Engineered interactive Streamlit dashboard visualizing key memory metrics across different model architectures, batch sizes, and execution modes
- Identified critical memory optimization strategies resulting in 4.3x memory efficiency when deploying models on GPU vs CPU
- Conducted extensive performance analysis revealing PyTorch's 60% lower memory footprint compared to TensorFlow
- Technologies: Python, TensorFlow, PyTorch, Streamlit, memory_profiler, Pandas, Matplotlib

RESEARCH EXPERIENCE

Research Assistant | Vishwakarma Government Engineering College | 01/2024 - 04/2024 | Ahmedabad, India

- Conducted comprehensive analysis of 60+ research papers on U-Net architectures in remote sensing applications
- Developed comparative analysis framework for evaluating U-Net variants across multiple satellite datasets
- Created detailed documentation of U-Net modifications for satellite image change detection
- Research accepted for publication in IET Proceedings, demonstrating significant contribution to the field

SKILLS

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|---------------|------------------|
| Python | SQL |
| Pytorch | Scikit-learn |
| Deep Learning | Machine Learning |
| AWS EC2 | Git |
| Docker | GCP |
| Tableau | |

ACTIVITIES AND LEADERSHIP

HackVGEC Student Organizer (04/2023)

Organized state-level hackathon for 200+ participants

SSIP Grand Finale Finalist (2023)

Selected among 700+ participants. Developed a unified platform for accessing all government schemes with real-time data analysis. Designed and implemented separate dashboards for admins and customers, enabling efficient scheme management and user insights.

Smart India Hackathon Participant (2022)

Developed a Student Dashboard for enhanced user experience and accessibility. Designed features for personalized tracking, data visualization, and easy navigation.