

ELICE PRIYADARSHINI

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Education

University of Wisconsin–Madison

M.S., Electrical & Computer Engineering - Machine Learning (GPA: 3.6/4.0)

Savitribai Phule Pune University

B.Tech., Electronics & Telecommunication

Expected Dec 2025

Publications

- E. Priyadarshini, A.M. Deshpande, A. More, S. Pate. “Analysis of Sea Surface Temperature and Chlorophyll-a Concentration Along the Coastline of the Indian Peninsula Using Remote Sensing Data.” *Springer, Geo-Environmental Hazards using AI-enabled Geospatial Techniques and Earth Observation Systems*, 2024.
- A. Deshpande, E. Priyadarshini, A. More, S. Pate. “A new framework for accessing and visualizing Ocean Color Data for water quality parameter analysis.” *Journal of Integrated Science and Technology*, 12(1), 2024.

Experience

SQLPilot.ai

Machine Learning Engineer - Text-to-SQL Systems

Tech: PyTorch, LangChain, FastAPI, RAG, SQLCoder, Docker, CI/CD

May 2025 – Aug 2025

- Engineered **RAG pipeline** for Text-to-SQL system, improving schema adherence by **18%** through SQLCoder fine-tuning; deployed as **production inference API** with FastAPI and complete CI/CD pipeline.
- Implemented **A/B testing workflows** and model containerization with Docker to ensure production readiness.

Lee Labs, UW-Madison

Graduate Researcher - Multi-Domain Process Reward Models (ICML 2025)

Tech: PyTorch, LoRA, Llama 3.1, AWS SageMaker, MLOps

Sep 2024 – Dec 2024

- Engineering contributor to VersaPRM (ICML 2025)**, the first multi-domain PRM generalizing beyond math to **14 domains**, demonstrating **7.9% accuracy gain** in non-math reasoning.
- Built **evaluation infrastructure using AWS SageMaker** for large-scale PRM benchmarking, accelerating evaluation by **40%** across **10+ datasets**; engineered MLOps pipelines for experiment tracking and model versioning.
- Conducted ablation studies on inference algorithms (**Beam Search, MCTS, Best-of-N**); contributed to **open-source release** of models, datasets, and evaluation code.

Siemens Digital Industries Software

Software Engineer - ML/AI & Platform Engineering

Tech: GPT-3.5, TAPAS, PyTorch, OpenLCA, React, TypeScript, Python, REST

Sep 2020 – Jul 2024

- Led GPT-3.5 fine-tuning project for BOM sustainability recommendations**, integrating openLCA scoring and deploying to production **Teamcenter PLM**; **demonstrated to CEO**, enabling eco-conscious product decisions for enterprise customers.
- Architected **secure TAPAS-based NL-to-SQL chatbot** with role-based access control for querying Mendix databases, preventing sensitive data leakage while enabling natural language enterprise data access.
- Authored company-wide API design whitepaper adopted by **17+ product teams**; built shared component library reducing development time by **30%**; mentored **4 junior engineers and 2 interns**.

TATA AutoComp Systems Limited

Machine Learning Intern - ADAS Development

Tech: YOLOv3, OpenCV, Python

Summer 2019

- Developed **YOLOv3-based pedestrian detection and driver attention monitoring system** for automotive safety ADAS applications.

Selected Projects

Semiconductor Wafer Defect Detection with Accelerated Inference

Computer Vision for Manufacturing Process Control

Tech: PyTorch, CNNs/ViTs, TensorRT, ONNX, CUDA, MLflow

Feb 2025 – Mar 2025

- Developed CNN/ViT-based classifier achieving **96% F1-score** for nanoscale wafer defect detection; accelerated inference by **45%** using TensorRT/ONNX optimization, creating high-throughput pipeline for in-line inspection.

Skills

Programming	Python, C++, TypeScript/JavaScript, SQL, CUDA C
ML/AI	PyTorch, LLM Fine-Tuning (GPT-3.5, Llama, SQLCoder), RAG, LoRA, Computer Vision (YOLO, CNNs/ViTs), Model Optimization (TensorRT, ONNX)
Infrastructure	Model Deployment & Serving (FastAPI), Docker, CI/CD, MLOps, AWS SageMaker, Experiment Tracking, A/B Testing
Cloud/HPC	AWS (Certified Cloud Practitioner), CUDA, Slurm, Linux