

Lamine Deen

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USA Citizen

SUMMARY:

Machine Learning Engineer experienced in **end-to-end model development, MLOps, and scalable AI deployment**. 2× SWE Intern (Leonardo DRS, ReactDX), Rank 1 at ICPC South 2024 Div-2, and AI Research Assistant at Florida Tech NETS Lab. Skilled in **CNNs, Transformers, RL**, and deploying ML pipelines on **Azure & GCP**.

EDUCATION:

Florida Institute of Technology

M.S. Computer Science, **GPA 4.0** (Exp. Dec 2026) - **B.S.** Computer Science (May 2025) - **A.S.** Business Admin (May 2022)

JOB EXPERIENCE:

AI Graduate Research Assistant | Florida Tech NETS Lab

August 2024 – Present

- Built custom PyTorch CNNs improving F1 0.71 → 0.77 on a 5k-image dataset.
- Automated data + training pipelines (-15% setup time) and integrated MLflow tracking.
- Developed entropy-based loss for model regularization; standardized experiment reproducibility.

Software Engineer Intern | Leonardo DRS

May – December 2024

- Delivered C#/.NET test-panel app cutting test duration 20 % (~20 hrs/wk) and operator cost 26 %.
- Analyzed and mined system logs to optimize test protocols and data accuracy.
- Partnered with technicians and engineering teams to standardize production workflow.

Software Engineer Intern | ReactDX

May - December 2023

- Built Azure Function pipeline (Python + PyQt) reducing analysis time 8 h → 2 h.
- Implemented real-time fault detection for cardiac monitors, speeding device replacement.
- Integrated predictive insights into client tools to cut operational cost and downtime.

Data Analyst Intern | Ad Leaf Marketing Firm LLC.

August - December 2022

Supply Chain & Logistics Analyst Intern | Second Harvest Food Bank

March - September 2021

TECHNICAL SKILLS:

- **Languages:** Python, Java, C#, R, SQL, TypeScript
- **AI/ML:** PyTorch, Transformers, RL, XGBoost, Scikit-learn, LangChain, Google ADK, LLMOps
- **MLOps & Cloud:** Docker, Kubernetes, Ray Serve, Dagster, MLflow, DVC, Azure, GCP, CI/CD
- **Data & Backend:** FastAPI, Pandas, NumPy, PostgreSQL, Redis
- **Frontend:** React, Next.js, TailwindCSS

PUBLICATIONS:

Uncovering Neural Learning Dynamics Through Latent Mutual Information

January 2026

- Used mutual information to analyze CNN representations, showing label information grows with depth while compression is not universal across architectures.
- Identified functionally critical high-information channels and introduced an HSIC-based regularizer that speeds up training and improves accuracy.
- www.mdpi.com/1099-4300/28/1/118#Results

PROJECTS:

Privacy First AI Assistant

January 2025 - Present

- Architected multi-agent LLM assistant (Google ADK + LangChain + FAISS).
- Built MLOps stack (MLflow + Ray Serve + Dagster) with RL-based personalization (-20 % deploy time).
- Implemented dual-LLM security pattern keeping RAG and user data local.