Lamine Deen

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EXPERIENCE

AI Engineer | BWX Technologies Mar 2026 - Present

- Sole engineer and product owner of an Azure GCC High meeting-summary platform, deployed to 6000 users.
- Built its LLM pipeline over Microsoft Graph API with semantic chunking, prompt orchestration, and human review scoring feeding continuous prompt revision.
- Cleared an 8-user security pilot with no data leakage, projecting $720K in avoided annual licensing costs.
- Building a Databricks IT spend pipeline over 8 sources with rules-first, confidence-scored LLM enrichment.

Graduate Research Assistant | Florida Tech NETS Lab Aug 2024 - Mar 2026

- Proposed the HSIC-based regularizer used in the lab's published work, improving F1 from 0.71 to 0.77.
- Trained a 12.7M-parameter ResNet-18 encoder-decoder on 25,511 gaze-labeled frames, cutting localization error 27.2% against an always-center baseline.
- Engineered reproducible MLflow training workflows with automated QC and data-leakage safeguards.

Software Engineer Intern | Leonardo DRS May 2024 - Dec 2024

- Built a C#/.NET test-panel application cutting test time 20% and operator costs 26%, with Xmodem over UART and UDP over Ethernet for device telemetry.

Software Engineer Intern | ReactDX May 2023 - Dec 2023

- Scoped and built a real-time Azure Functions anomaly-detection pipeline for cardiac monitors, cutting analysis time from 8 hours to 2.

PROJECTS

Machine Unlearning Verification (M.S. Thesis) May 2026 - Present

- Reimplemented RULER's oracle-free M4 verification metric from published equations, reproducing the source CIFAR results across 15 ResNet-18 retrain oracles and 5 seeds.
- Falsified the metric's published null of 0.50: a retrain oracle reads 0.28 versus 0.50 for a memorized member, a 0.22 separation on disjoint 95% confidence intervals.
- Recovered both references from held-out data to within 0.0117 (n=42), cutting audit cost to two forward passes.

Privacy First AI Assistant Jan 2025 - Jan 2026

- Architected a multi-agent LLM assistant on LangChain and FAISS with a dual-LLM security pattern isolating untrusted content from the privileged model.
- Built an MLflow, Dagster, and DVC stack with PEFT personalization, cutting model-release time 20%.

Agent Evaluation Task Suite Jun 2026 to Jul 2026

- Repaired a Terminal-Bench 2 (Harbor) task and built two more agent evaluation environments spanning log ETL, a Panda3D world, and a Whisper/FFmpeg pipeline.
- Wrote verifiers that recompute expected answers from source data, with BFS checks and pass/fail rubrics.

PUBLICATIONS

- **Uncovering Neural Learning Dynamics Through Latent Mutual Information.** Issitt, Merino, Deen, White, Meni. Entropy 28(1):118, 2026. **[Paper]**
- **When Does Unlearning Verification Work? An Operating-Range Analysis of a Subset-Independence Metric.** Deen, sole author. Under review, NeurIPS 2026 Workshop (PriLOM).

EDUCATION

Florida Institute of Technology, **M.S. Computer Science, GPA 4.0** (coursework -> Dec 2026, grad -> May 2027),
B.S. Computer Science (May 2025) (ICPC North America South Division Championship 2024 — **Rank 1**, Division 2)

TECHNICAL SKILLS

- **Languages :** Python, SQL, Java, C#, TypeScript
- **AI/ML :** PyTorch, Hugging Face Transformers, Computer Vision, LangChain, RAG, LLMs, scikit-learn, XGBoost
- **Data & MLOps :** Databricks, Azure (GCC High, Functions, OpenAI), Docker, MLflow, Dagster, DVC, CI/CD
- **Evaluation & Research :** Experiment design, pre-registration, membership inference, reproducible pipelines