JESTIN THOMAS

AI/ML Research Engineer – Applied Research and Deep Learning

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Professional Summary

MSc Data Science graduate (CHRIST University, 2026) with a BSc in Statistics and a genuine research mindset: I don't trust a first result until I've tested it against alternatives. My published research (IEEE, ICVADV-2026) benchmarks three generative modeling approaches against each other on a hard, imbalanced dataset, the same rigor I bring to any technical problem. During my R&D-oriented AI/ML internship, I researched and experimented with novel architectures, including graph-based sensor fusion, alongside production deep learning work. Strong foundation in probability, statistics, linear algebra, data structures, and algorithms, with hands-on Python (TensorFlow, PyTorch, Scikit-learn). Comfortable communicating complex technical ideas clearly, and genuinely curious about pushing past the edge of what I already know.

Skills

Research and Experimentation: Literature Review, Comparative Model Benchmarking, Hypothesis-Driven Experimentation, Unit Testing, Published Research (IEEE)

Foundations: Probability and Statistics, Linear Algebra, Data Structures and Algorithms, Statistical Modeling, Hypothesis Testing

Machine Learning and Deep Learning: Python, TensorFlow, PyTorch, Scikit-learn, CNN, LSTM, GRU, Transformers, Attention Mechanisms, Generative Models (GANs, VAE, Diffusion Models)

Emerging Areas (exploratory, from internship research): Graph-Based Sensor Fusion (GNN), CNN-Transformer Architectures, Multi-Agent Reinforcement Learning (DQN)

GenAI and Tools: Large Language Models (LLMs), RAG, LangChain, Git, GitHub Actions CI/CD, Docker, AWS, Microsoft Azure, Google Cloud

Work Experience

TechZia

AI/ML Engineer Intern (R&D-Oriented) **Jan 2026 - Jun 2026**

Autonomous Vehicle Cybersecurity Agent

- Researched and experimented with novel architectures for multi-sensor fusion, including graph neural network (GNN) based approaches and CNN-Transformer designs, alongside the production CNN + LSTM system that shipped
- Designed a multi-agent reinforcement learning system (DQN), working through reward shaping and training instability as part of the research process, not just the engineering
- Communicated research findings and technical trade-offs clearly to both technical and non-technical stakeholders

Projects

Solar Flare Classification | Python, TensorFlow, DenseNet121, GRU, Attention, GANs, VAE, Diffusion Models GitHub

- Designed a deep learning architecture (DenseNet121 + GRU + Attention) for image sequence classification, reaching 75% accuracy on a heavily imbalanced, real dataset
- Ran a rigorous comparative study of three generative modeling approaches (Conditional DCGAN, VAE, Diffusion Models) for synthetic data augmentation, rather than accepting the first one that worked; the methodology was peer-reviewed and published at IEEE ICVADV-2026

Multi-Document RAG Research Assistant | Python, LlamaIndex, LangChain, FAISS, RAGAS, Streamlit GitHub

- Built a RAG pipeline and ran systematic evaluation (RAGAS) comparing chunking strategies, embedding models, and retrieval configurations against each other

LLMOps Model Regression Detection System | Python, Groq API, Gemini API, LangChain, GitHub Actions GitHub

- Built an automated evaluation system to test and validate AI model behavior systematically, catching regressions before deployment

Education

Master of Science in Data Science | CHRIST (Deemed to be University), Bengaluru **2024 - 2026**

Bachelor of Science in Statistics | Sree Sankara College, Kalady (MG University) **2021 - 2024**

Research and Intellectual Property

Publication – IEEE Conference Paper, ICVADV-2026, IEEE Xplore **Feb 2026**

Synthetic Data Augmentation for Robust Solar Flare Classification: A Comparative Analysis of Conditional DCGAN, VAE, and Diffusion Models

Design Patent, Government of India, *Mobile Cooler*, Class 23-04, **No. 443142-001**, **Jan 2025**