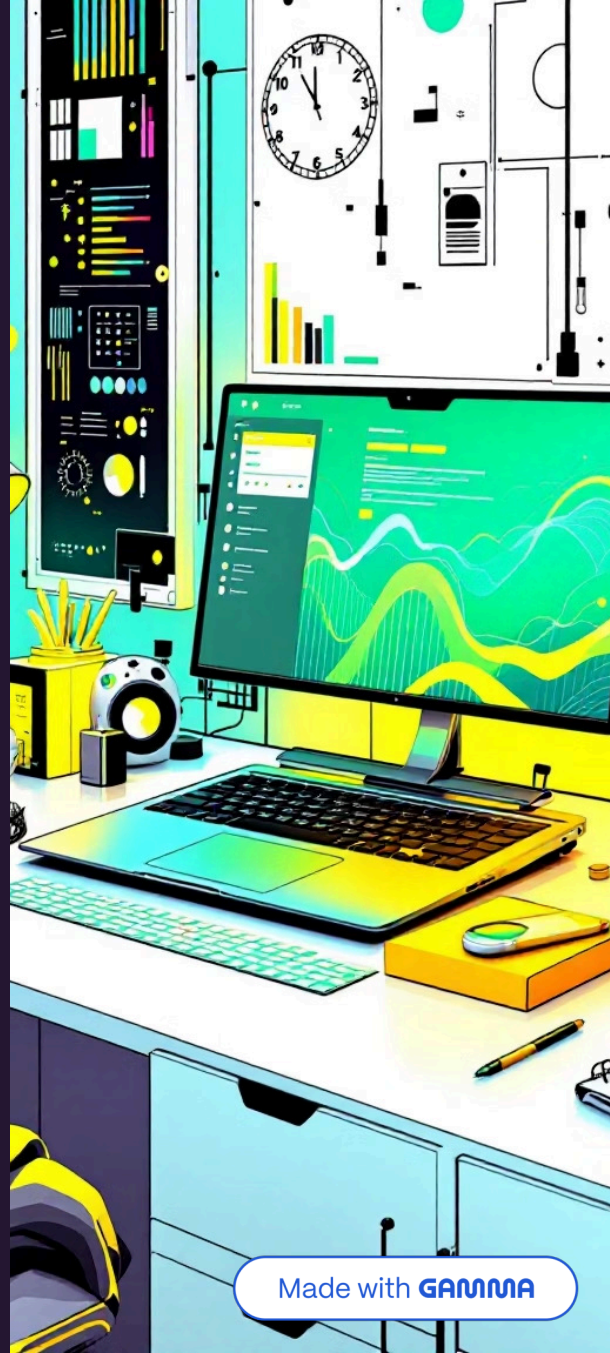
Aamir Bader Shah: AI / ML / Data Science Engineer

Innovative ML and AI Engineer with expertise in production-ready models, intelligent agent systems, and deep learning. Specialized in multimodal architectures, time-series forecasting, and RAG-based knowledge retrieval. Proven track record across academic research, industry internships, and cutting-edge AI projects. Past internship experience. Graduating Dec 2026.



Introduction & Personal Statement

Who am I?

I, Aamir Bader Shah, am an AI & Machine Learning Engineer based in Houston, TX. Ph.D. candidate in Machine Learning at University of Houston with a passion for building intelligent systems.

My Goals

Seeking full-time roles in Data Science, AI/ML Engineering, and Intelligent Agent Systems. Driven to develop production-ready models that solve real-world problems.

Why me?

Collaborative engineer with deep expertise in deep learning, classical ML, and multimodal architectures. Committed to data quality, interpretability, and performance optimization.

My Research Interests

33.0%

Computer Vision & Augmented Reality

Building intelligent visual systems and immersive 3D experiences

27.0%

Industrial AI & Predictive Maintenance

Optimizing operations and maintenance through predictive analytics

21.0%

Multi-Agent Systems & RL

Orchestrating collaborative intelligent agents while ensuring safety

19.0%

Healthcare & Multimodal Data

Advancing multi-modal data through the use of Mixture of Expert Models

Few of my works

AI-Driven Multi-Agent Workflow Automation & Medical Assistant

Designed fully-automated AI Agent system for medical record parsing, appointment scheduling, and lab-report interpretation using FastAPI, LangChain, and RAG. Implemented monitoring dashboard for real-time performance tracking.

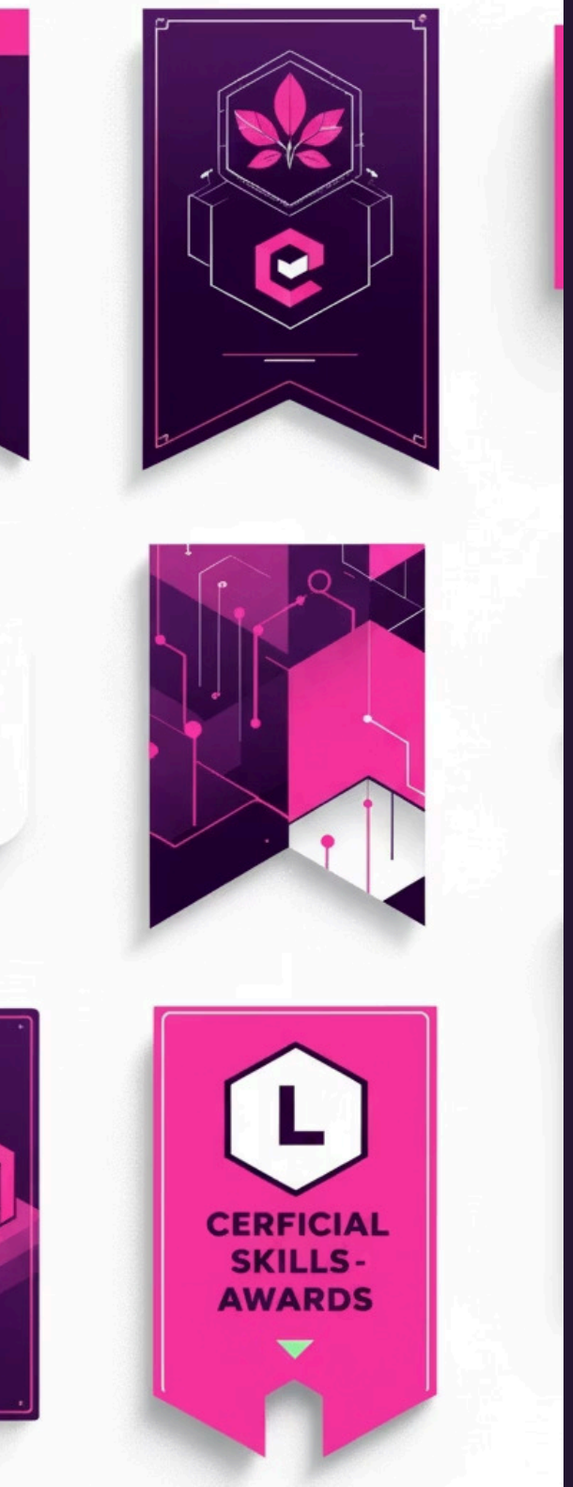
Cognitive Load Assessment via Multimodal Intelligence

Engineered cross-attention transformer with mixture-of-experts achieving 93% accuracy in cognitive load classification from EEG, ECG, EDA, and eye-tracking signals. Created interpretable attention visualization system.

Remaining Useful Life (RUL) Prediction for Drilling Sensors

Applied ML/DL models (Random Forest, XGBoost, LightGBM, Autoencoders) to predict drilling sensor RUL. Integrated transformer-based models into on-site Health Analyzer for real-time operations.

Complete details of my publications can be found at https://scholar.google.com/citations?user=UmP3Ej4AAAAJ&hl=en



My Skills & Expertise

Core Competencies

Deep Learning, Machine Learning, Time-Series Forecasting, Anomaly Detection, Computer Vision, Reinforcement Learning, AI Agents, RAG, Prompt Engineering.

Tools & Methods

PyTorch, TensorFlow, Scikit-learn, LangChain, LangGraph, n8n, FastAPI, Pandas, NumPy.

1

Technical Skills

PyTorch, XGBoost, LightGBM, Transformers, Mixture of Experts, LLMs, RAG, FastAPI, LangChain

2

Professional Certifications

Dataiku Machine Learning Practitioner, Dataiku Core Designer, Seatronics UK Equipment Maintenance Certification

3

Awards & Recognition

Published in IEEE TC, IROS, EMBC, WACV, CVPR Workshop; SPE/AAPG/SEG URTEC Conference presenter

Professional Experience & Education

1

Graduate Research Assistant, University of Houston

Jun 2022–Present • Developed cross-attention mixture-of-expert model for cognitive load prediction. Engineered Multi-Agent RL framework on StarCraft II. Designed FPGA-based Hangman Game with interactive interfaces.

2

Data Science Intern, Schlumberger (SLB)

May 2024–Aug 2024 • Implemented classical ML models (Random Forest, XGBoost, LightGBM) for RUL prediction. Integrated transformer model into Health Analyzer tool. Achieved 90% F-1 scores on time-series drilling data.

3

Data Science Intern, Schlumberger (SLB)

May 2023–Aug 2023 • Applied deep learning (K-means, anomaly detection) on electronic sensor datasets. Developed predictive maintenance models with 90% accuracy. Enabled cost savings through improved electronics reliability.

4

Ph.D., Machine Learning, University of Houston

Jan 2021–Jan 2026 • GPA: 3.93/4.00 • Focus on deep learning, multimodal architectures, and AI agents for real-world applications.

Personal Approach & Values

Data Quality First

I prioritize rigorous data analysis and quality assurance in every model. Clean, well-understood data is the foundation of reliable AI systems.

Real-World Impact

Every project is designed for production deployment. I focus on performance optimization, scalability, and solving tangible problems.

Technical Excellence

Deep expertise in cutting-edge architectures—transformers, mixture-of-experts, multimodal systems. I stay current with research and push technical boundaries.

Interpretability & Trust

I build explainable models with attention visualization and interpretability frameworks. AI systems must be trustworthy and understandable.

- My values center on technical rigor, continuous learning, and creating AI systems that make meaningful real-world impact. Collaborators benefit from a dedicated engineer who combines research depth with practical engineering excellence.

Impact & Recognitions

Published Researcher

6 peer-reviewed publications in top-tier venues including IEEE IROS, EMBC, WACV, and CVPR Workshop. Research spans AI agents, multimodal learning, and computer vision.

Industry Impact

Internship work at Schlumberger resulted in production-ready models deployed for predictive maintenance. Achieved 90% accuracy on critical drilling sensor predictions.

Technical Leadership

Developed end-to-end AI systems from research concept to production deployment. Expertise in multi-agent orchestration, RAG systems, and real-time monitoring dashboards.

6

Peer-Reviewed Publications

3.93/4.0

Ph.D. GPA

5+

Production ML Models

Immigration Status

Nationality

International student from Pakistan

Current Visa

On J-1 visa presently

Work Authorization

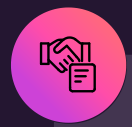
Full-time Academic Training allowed

AT Duration

Up to 36 months of training

Future Plan

Seeking H-1B visa next



Sponsorship Needed

Employer sponsorship required

Contact

Let's Build Intelligent Systems Together

I'm excited to discuss AI/ML opportunities, research collaborations, or innovative projects. Whether you're looking for a technical partner or want to explore cutting-edge AI solutions, I'd love to connect.

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