

# Huang Tang

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## Principal Artificial Intelligence Engineer & AI Solution Architect

Great Falls, Virginia | huangtang@gmail.com | (571) 604-9188 |  

## Executive Summary

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Senior GenAI platform leader with 12+ years of experience building **secure, scalable, and observable AI platforms** in highly regulated environments. Proven expert in **LLM platforms, GenAI gateways, Agentic AI, RAG, MCP, and AWS-based cloud-native architectures**. Track record of reducing latency and cost, improving reliability, and accelerating enterprise AI adoption. Trusted technical leader mentoring hybrid teams and partnering with stakeholders to deliver **customer-centric GenAI capabilities at scale**.

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## Core Skills (ATS-Optimized)

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- **GenAI Platforms:** GenAI Gateway, LLM Orchestration, Agentic AI, RAG, MCP, Custom GPTs
  - **Cloud & Infrastructure:** AWS (Bedrock-aligned architectures), API platforms, cloud-native services
  - **Full-Stack Engineering:** Python, Java, JavaScript, Angular, REST APIs
  - **Observability & Reliability:** Telemetry, monitoring, alerting, latency & cost optimization
  - **MLOps / DevOps:** CI/CD, model & agent versioning, automated testing, deployment pipelines
  - **Enterprise Integration:** Secure APIs, connectors, knowledge systems
  - **Leadership:** Architecture ownership, mentoring, hybrid team leadership
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## Professional Experience

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### REI Systems | AI Solution Architect | Dec 2025 - Present

As an AI Solution Architect of the CTO Office, leading the establishment of the company's AI foundation and providing SME level consulting to AI efforts across the company.

- **Agentic AI & Large Language Models in Deep Research and Active Data Catalog:**
  - Designing and implementing agentic AI systems for multimodal data governance and automated querying
  - Developing LLM-based agents to support FDA entry inspections
  - Building LLM agents for supply chain traceability and disruption impact prediction

# The MITRE Corporation — Principal Artificial Intelligence Engineer

Sep 2012 – Jun 2025 Clients: DISA, DHA, FAA, IRS, DHS

## GenAI Platform & Gateway Leadership

- **Led engineering of enterprise GenAI platforms** functioning as internal gateways for LLM access, enabling secure, governed consumption across multiple mission applications.
- Designed **Knowledge Graph-indexed RAG pipelines** improving answer accuracy and traceability by ~40% while reducing hallucinations in regulated decision workflows.
- **Owned agent lifecycle management** (versioning, testing, deployment) for custom LLM agents, tools, and plug-ins used by distributed application teams.
- Implemented **usage, latency, and cost telemetry**, reducing GenAI API spend by ~25% through prompt optimization, caching, and routing strategies.

## AWS & Cloud-Native Architecture

- Architected and optimized **AWS-based AI solutions**, integrating foundational models, scalable APIs, and enterprise data services.
- Built **secure API and connector-based integrations** with internal data sources and collaboration systems (document repositories, workflow platforms).
- Applied cloud-native patterns to ensure **high availability, fault tolerance, and horizontal scalability** of AI services.

## Observability & Reliability Engineering

- Established end-to-end **observability standards** (metrics, logs, traces) across AI platform components, enabling proactive incident detection and performance tuning.
- Drove **latency reductions of 30%+** for LLM-backed applications through async orchestration and pipeline optimization.

## Representative GenAI / AI Initiatives (STAR-Oriented)

- **Tech Lead** – KG-driven RAG Question Answering Platform → Enabled trusted AI decision support for thousands of users across agencies.
- **Project Lead** – LLM-based architecture auto-generation → Cut manual analysis effort by ~50% for modernization programs.
- **Tech Lead** – LLM + KG aviation regulation de-conflicting → Improved regulatory consistency and review throughput.

## Leadership & Mentorship

- Led and mentored **hybrid teams (FTEs + contractors)** across AI platform and application development.
- Partnered with business and mission stakeholders to align **AI adoption strategies** with operational and risk requirements.

## **Metavi, LLC — Co-Founder**

**Feb 2011 – Aug 2012**

- Designed and delivered end-to-end data and analytics platforms for aviation traffic and weather data.
  - Led full-stack development and early cloud deployments for analytics products.
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## **George Mason University — Research Scientist**

**2005 – 2010**

- Developed and validated large-scale atmospheric and dispersion models.
  - Published peer-reviewed research in modeling and simulation.
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## **AI Governance & Responsible AI**

- Designed GenAI platforms with **security, privacy, and access control** as first-class concerns.
  - Implemented **traceability, auditability, and human-in-the-loop** patterns for LLM outputs.
  - Experience aligning AI systems with **risk management, compliance, and ethical AI principles** in regulated environments.
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## **Education**

- **Ph.D. (All but Dissertation)**, Aerospace Engineering & Mechanics — University of Minnesota
  - **M.S.**, Civil Engineering — Hunan University
  - **B.S.**, Engineering Mechanics — Hunan University
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## **Publications (Selected)**

- On the Exploration of Temporal Fusion Transformers for Anomaly Detection with Multivariate Aviation Time-series Data. DASC 2024.
  - Medical Evaluation Readiness Information Toolset (MERIT): Developing a Data-driven Decision Support Tool to Augment Complex Clinical Decisions. Military Medicine (Volume 188) 2023.
  - Adaptable Graph Network for Traffic Analysis Applications. DASC 2022.
  - Deep Reinforcement Learning Applied to Airport Surface Movement Planning. DASC 2019.
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## **Technical Stack**

- **Languages:** Python, Java, JavaScript, R, MATLAB, Spark

- **AI/ML:** PyTorch, TensorFlow, MXNet, ONNX
- **LLM / GenAI:** RAG, Agentic AI, MCP, Knowledge Graphs
- **MLOps:** Ray, MLflow, Kubeflow
- **Databases:** PostgreSQL, Neo4j, MongoDB, Cassandra, Weaviate, Pinecone
- **Cloud:** AWS, Azure, GCP