

Jeffrey A. Young

AI Software Architect | Enterprise AI Consultant | Data Scientist

Greer, South Carolina

(912) 508-2429

jay.data.iot@gmail.com

www.ja-young.com

www.eigenbytes.blog

www.datadrivensolutions.work

GitHub: [jaydataiot](https://github.com/jaydataiot)

Executive Profile

Enterprise AI architect and data scientist with over ten years of experience designing secure artificial intelligence, machine learning, cloud analytics, and enterprise decision-support solutions.

Experienced translating organizational goals into scalable AI architectures, evaluating emerging AI technologies, leading proof-of-concept initiatives, designing AI governance frameworks, and developing reusable technical patterns that accelerate enterprise AI adoption.

Hands-on experience building AI agents, Retrieval-Augmented Generation (RAG) systems, conversational AI applications, executive dashboards, predictive analytics platforms, cloud-native data pipelines, and machine-learning solutions using Python, Azure, AWS, SQL, Power BI, Tableau, TensorFlow, PyTorch, and Scikit-Learn.

Published AI security researcher with peer-reviewed work at USENIX Security and ACM CCS. Recognized for bridging research, engineering, and executive leadership to deliver secure, scalable, and measurable AI solutions.

Executive Qualifications

Enterprise AI	AI strategy, AI governance, responsible AI, enterprise adoption, organizational transformation, AI operating models
Generative AI	ChatGPT, Microsoft Copilot, AI agents, Retrieval-Augmented Generation (RAG), prompt engineering, conversational AI, knowledge retrieval
Architecture	Secure reference architectures, reusable technical patterns, solution architecture, cloud-native AI, enterprise integration, REST APIs
Cloud Platforms	Microsoft Azure, Azure AI, Azure Data Lake, AWS, hybrid cloud architectures, cloud analytics
Machine Learning	Predictive analytics, deep learning, NLP, TensorFlow, PyTorch, Scikit-Learn, feature engineering, model evaluation
Enterprise Analytics	Power BI, Tableau, executive dashboards, AI KPIs, adoption metrics, business intelligence
Programming	Python, SQL, Java, JavaScript, C#, R, Git, Linux

Executive Highlights

- Designed enterprise AI and machine learning solutions supporting large-scale predictive analytics, manufacturing optimization, workflow automation, and intelligent decision support.
- Developed cloud-native AI and analytics platforms utilizing Microsoft Azure, Azure Data Lake, AWS, Python, SQL, Power BI, and Tableau.
- Built AI-powered business applications, intelligent assistants, knowledge retrieval systems, and Retrieval-Augmented Generation (RAG) architectures supporting enterprise workflows.
- Designed proof-of-concept frameworks used to evaluate technical feasibility, organizational value, business impact, implementation complexity, and operational readiness.

- Created executive dashboards and KPI reporting systems that translate technical AI outcomes into measurable organizational performance indicators.
- Published more than twenty peer-reviewed research papers covering artificial intelligence, machine learning, AI security, predictive analytics, voice assistant security, IoT security, and data science.
- Successfully communicate highly technical AI concepts to executives, engineers, researchers, government stakeholders, students, and interdisciplinary teams.

Areas of Expertise

- | | |
|----------------------------------|---------------------------|
| • Enterprise AI Strategy | • NLP |
| • Responsible AI | • Machine Learning |
| • AI Governance | • Deep Learning |
| • AI Product Evaluation | • Cloud Architecture |
| • Vendor Assessment | • Azure AI |
| • AI Review Processes | • AWS |
| • Proof of Concept Leadership | • Python |
| • AI Success Metrics | • SQL |
| • AI KPIs | • Power BI |
| • Executive Reporting | • Tableau |
| • AI Adoption | • Data Engineering |
| • AI Agents | • REST APIs |
| • Retrieval-Augmented Generation | • Git |
| • LLM Integration | • Technical Leadership |
| • Prompt Engineering | • Executive Communication |

Professional Experience

Bosch USA

Data Scientist

2022–2025

Designed and delivered enterprise artificial intelligence, machine learning, predictive analytics, and cloud-based decision-support solutions supporting manufacturing operations, engineering teams, and business leadership.

- Designed enterprise AI and machine learning solutions supporting predictive maintenance, operational optimization, manufacturing analytics, and intelligent decision support.
- Built large-scale data pipelines using Python, SQL, Azure Data Lake, and AWS
- Built scalable Python, SQL, R, and C# applications supporting enterprise analytics and automated business workflows.
- Designed Azure-based cloud data platforms utilizing Azure Data Lake, relational databases, and enterprise data engineering practices.
- Developed executive dashboards using Power BI and Tableau that translated technical analytics into actionable operational KPIs.
- Worked with engineering, manufacturing, operations, and business stakeholders to identify high-value AI use cases, evaluate implementation approaches, and prioritize technical investments.
- Supported proof-of-concept development through data collection, feature engineering, model evaluation, performance validation, and deployment planning.

- Applied image processing, predictive analytics, machine learning, and workflow optimization techniques across multiple enterprise initiatives.
- Contributed to scalable software development utilizing GitHub, LeanIX, REST-based integrations, and modern software engineering practices.
- Delivered technical presentations and communicated complex AI concepts to technical and non-technical stakeholders.

Clemson University

AI Security Researcher

2019–Present

Lead research focused on artificial intelligence, voice assistant security, machine learning, natural language processing, privacy, and automated policy evaluation.

- Designed automated AI evaluation systems capable of analyzing large collections of AI applications for security, privacy, and policy compliance.
- Built NLP pipelines utilizing Python, TensorFlow, PyTorch, Scikit-Learn, Pandas, NumPy, and SciPy.
- Designed predictive machine learning models utilizing recurrent neural networks, deep neural networks, Markov models, and statistical learning techniques.
- Led collaborative development of an automated fuzzing platform supporting intelligent testing of AI applications.
- Developed reusable software architectures supporting scalable AI evaluation, automation, and research.
- Published peer-reviewed research at USENIX Security, ACM CCS, IEEE conferences, and other international venues.
- Conducted large-scale evaluation of AI ecosystems, application security, privacy risks, and responsible AI implementation.
- Collaborated across interdisciplinary research teams, graduate students, faculty, and industry partners.
- Presented research findings to technical audiences through conference publications, presentations, and invited discussions.

Clemson University

Graduate Teacher of Record

2022–2023

- Instructor for CPSC 4240/6240 (System Administration and Security).
- Designed lectures, hands-on laboratories, technical assignments, and assessments covering Linux administration, security, networking, automation, and enterprise infrastructure.
- Mentored undergraduate and graduate students while communicating complex technical concepts to diverse audiences.
- Developed course materials emphasizing applied software engineering, security, automation, and systems architecture.

Georgia Southern University

Research Team Lead / Graduate Research Assistant

2015–2019

- Led interdisciplinary research involving IoT, machine learning, cybersecurity, data mining, and predictive analytics.
- Managed collaborative research initiatives involving DHS, NSA, faculty, graduate researchers, and undergraduate students.
- Designed predictive models supporting crime prediction, device profiling, authentication, financial forecasting, and decision-support systems.
- Built Python, R, and SQL analytical pipelines supporting research, visualization, and machine learning experimentation.
- Supervised student researchers while coordinating project planning, technical implementation, documentation, and publication activities.

Data Driven Solutions Work (DDSW)

Founder & Principal AI Consultant

2024–Present

Founded and lead an AI and data science consulting practice focused on helping organizations transform business operations through artificial intelligence, machine learning, cloud analytics, intelligent automation, and enterprise data engineering. Design production-ready AI solutions that combine cloud-native data platforms, modern software engineering, and large language model technologies to improve decision making, operational efficiency, and business performance. The company specializes in AI strategy, intelligent agents, cloud data engineering, executive analytics, and custom AI applications.

- Design enterprise AI strategies that align organizational goals with artificial intelligence, automation, analytics, and cloud technologies.
- Architect production AI solutions utilizing Python, SQL, Azure Data Lake, AWS cloud services, REST APIs, and modern software engineering practices.
- Design and implement scalable ETL and ELT data pipelines supporting machine learning, business intelligence, reporting, and predictive analytics.
- Develop Retrieval-Augmented Generation (RAG) systems that integrate organizational knowledge with Large Language Models to provide accurate, context-aware responses for business users.
- Build intelligent AI agents capable of workflow automation, knowledge retrieval, document analysis, business planning, decision support, and customer engagement.
- Develop custom ChatGPT- and Microsoft Copilot-based solutions that improve organizational productivity through intelligent assistants, document generation, research support, and operational automation.
- Evaluate emerging AI platforms, foundation models, and enterprise AI technologies to determine technical feasibility, business value, implementation risk, and long-term scalability.
- Establish proof-of-concept success criteria, technical evaluation frameworks, KPIs, and production monitoring metrics for AI initiatives.
- Design executive dashboards using Power BI and Tableau to monitor AI adoption, operational performance, cost optimization, business outcomes, and organizational KPIs.
- Build cloud-native data platforms utilizing Azure Data Lake and AWS services to support scalable analytics, machine learning workflows, and AI-powered applications.
- Develop production-ready Python applications supporting intelligent automation, API integration, data engineering, analytics, and AI-driven decision support.
- Create AI-powered consulting platforms that automatically generate business strategies, implementation roadmaps, technology recommendations, workflow optimization plans, and executive reports from client requirements.
- Consult with organizations on AI governance, responsible AI, enterprise architecture, data strategy, cloud adoption, and secure AI implementation.
- Deliver technical workshops, executive presentations, and AI education programs for business leaders, engineers, researchers, and non-technical stakeholders.

Enterprise AI Consulting

Founder — Decision Science Group

2022–2024

Provide AI consulting, enterprise analytics, and intelligent automation solutions for commercial, academic, and entrepreneurial organizations.

- Design enterprise AI adoption strategies that align technical capabilities with organizational goals.
- Develop AI-powered business planning assistants capable of generating implementation roadmaps, workflow recommendations, analytics strategies, and ROI analyses.

- Build conversational AI assistants, knowledge retrieval systems, and intelligent automation workflows.
- Design Retrieval-Augmented Generation (RAG) architectures supporting organizational knowledge management.
- Evaluate emerging AI technologies, LLMs, and cloud platforms for enterprise adoption.
- Produce executive presentations, technical documentation, implementation strategies, and AI governance recommendations.

Selected Enterprise AI Projects

Enterprise AI Business Planning Platform

Designed an intelligent consulting platform that guides organizations through AI adoption by collecting business requirements and automatically producing implementation roadmaps, analytics strategies, workflow optimization recommendations, AI opportunity assessments, technology recommendations, and executive implementation plans.

Key Technologies

- Python
- Large Language Models (LLMs)
- Prompt Engineering
- Intelligent Automation
- Business Intelligence
- Executive Reporting

Enterprise Knowledge Assistants

Designed conversational AI assistants capable of searching organizational knowledge, answering technical questions, summarizing documentation, and supporting customer engagement through Retrieval-Augmented Generation (RAG) techniques.

Core Capabilities

- AI Agents
- Retrieval-Augmented Generation
- Semantic Search
- Knowledge Retrieval
- Conversational AI
- Prompt Engineering

Predictive Maintenance Analytics

Designed enterprise predictive analytics solutions supporting equipment monitoring, operational optimization, maintenance planning, and manufacturing intelligence through machine learning, feature engineering, time-series analysis, and cloud analytics.

Voice Assistant Security Research Platform

Designed scalable AI evaluation systems capable of automatically detecting security, privacy, and policy compliance issues across large collections of voice assistant applications using NLP, machine learning, and intelligent automation.

AI Education Platform

Created AI-assisted educational resources, technical tutorials, interactive learning assistants, and intelligent knowledge systems supporting data science, machine learning, artificial intelligence, and cybersecurity education.

Technical Leadership

- Translate executive objectives into scalable enterprise AI architectures.
- Evaluate AI technologies, vendors, platforms, and implementation approaches using structured technical and business criteria.
- Define proof-of-concept success metrics, acceptance criteria, KPIs, and deployment readiness measures.
- Develop reusable technical architectures that improve consistency, security, and implementation efficiency.
- Communicate complex AI concepts to executives, government leaders, engineers, researchers, students, and interdisciplinary stakeholders.
- Lead collaborative technical projects involving machine learning, analytics, security, software engineering, and cloud computing.
- Produce executive reports, technical documentation, architecture diagrams, implementation plans, and strategic recommendations.

Technical Skills

Programming	Python, SQL, Java, JavaScript, C, C++, C#, R, HTML5
Artificial Intelligence	Generative AI, Large Language Models, AI Agents, Retrieval-Augmented Generation, Prompt Engineering, Natural Language Processing, Deep Learning, Machine Learning
Machine Learning	TensorFlow, PyTorch, Scikit-Learn, Pandas, NumPy, SciPy, Feature Engineering, Predictive Analytics
Cloud Platforms	Microsoft Azure, Azure AI, Azure Data Lake, AWS, Cloud Analytics, Hybrid Cloud Architectures
Visualization	Power BI, Tableau, Plotly, Matplotlib, Executive Dashboards, Business Intelligence
Software Engineering	REST APIs, Git, GitHub, GitLab, Linux, LeanIX, Agile Development
Security	AI Security, Voice Assistant Security, IoT Security, Privacy, Policy Compliance, Risk Assessment

Education

Clemson University

Ph.D. Computer Science
Dissertation Defense Pending

Georgia Southern University

Master of Science
Computer and Information Science

Armstrong State University

Bachelor of Science
Computer Science

Research and Publications

Author or co-author of more than twenty peer-reviewed publications covering artificial intelligence, machine learning, voice assistant security, privacy, predictive analytics, IoT, financial forecasting, authentication, and data mining.

Selected venues include

- USENIX Security
- ACM CCS
- IEEE
- ICCS
- CSCI
- RFID
- HONET

Professional Leadership

Reviewer

- USENIX Security
- IEEE INFOCOM
- IEEE GLOBECOM
- IEEE ESSCA
- IEEE IPCCC
- ACSAC
- ICCN

Honors and Professional Memberships

Awards

- Talford Family Annual Fellowship in Computing
- Bhatia Foundation Scholarship in Computer Science
- Dixie Crystal Scholarship

Professional Organizations

- IEEE
- IEEE Computer Society
- IEEE Young Professionals
- IEEE Power and Energy Society
- IEEE Council on RFID
- Phi Kappa Phi
- Upsilon Pi Epsilon

Available for Enterprise AI Architecture, Generative AI, Machine Learning, Cloud AI, Technical Strategy, and Executive AI Consulting