ALEX MOYSE

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DATA ENGINEERING | AI DEVELOPER | PRODUCT MANAGEMENT

Certified Azure developer with strong product instincts, specializing in agentic systems and applied AI, with a proven record of scaling complex AI products from concept through production. Deep expertise in Python, Azure, and hybrid cloud deployments, with hands-on experience building LLM-based agents, retrieval-augmented generation (RAG) systems, and OpenAI-powered applications. Strong focus on system architecture, reliability, and governance, designing scalable data and inference pipelines that convert complex signals into measurable product outcomes. A senior technical contributor who bridges engineering, research, and product to deliver responsible AI at scale.

CORE COMPETENCIES

- Data Engineering
- Agentic AI Systems
- Azure Certs & AWS Experience
- ChatBot development & integration
- Retrieval-Augmented Generation (RAG)
- LLM Orchestration
- OpenAI API Integration
- Agent Framework 2.0
- LightRAG & N8N
- Github/Pipeline Development
- Selenium
- Responsible AI (RAI)
- Python Development with Django
- Human-AI Collaboration
- Azure OpenAI & LLMs

EDUCATION

City College of New York-School of Professional Studies: June 2025 – *Master of Science in Data Science*

- GPA: 4.0

Boston University: September 2018 – *Bachelor of Science, Electrical Engineering / Minor in Business Administration*

- Artificial Intelligence, Signals and Systems, Control Systems, Nanotechnology, Product Design
- BU Entrepreneurship Award for Senior Design Project: An IoT Volumetric & Temperature Controlled Espresso Machine

PROFESSIONAL EXPERIENCE

MICROSOFT | CAMBRIDGE, MA | JULY 2025-PRESENT

- Selected for Microsoft AI Development Acceleration Program (MAIDAP), a two-year high-impact rotational initiative that embeds elite AI talent within product teams for 6-month rotations to accelerate the development and deployment of next-generation AI & Agentic systems, driving innovation across Microsoft's most strategic platforms.
- Recognized for resolving complex challenges within MAIDAP rotations, mentoring new members through problem-solving and organizational navigation. **Hand-selected by the program director** to lead a high-priority technical project requiring cross-functional coordination and execution excellence.
- **Inventor on two filed patents** related to generative AI system design and workflow orchestration.
- Led the architectural design of internal services leveraging AutoGen and related agentic frameworks to enhance AI agent coordination and speed up experimentation cycles.
- **Identified a critical outage-management gap across partner teams** and initiated a focused intervention, securing management alignment to organize and co-design a **2-week, multi-team hackathon**.
- **Served as initiator and co-technical designer**, co-leading a core team of 5 and collaborating with ~15 partner engineers to build **agent-driven runbook automation** targeting reduced **MTTR, on-call burden, and escalation overhead**.
- **Collaborated with the partner teams,turning the hackathon project into an 8-month, sponsored initiative**, rapidly progressing toward production and operational adoption. Currently in talks to onboard 2 more potential teams into this effort.
- **Two-time MLADS speaker**, contributing to critique agent development initiatives and delivering instruction on RAG fundamentals and applied AI-driven development practices.

PANALGO | BOSTON, MA | JULY 2021-MARCH 2024

DATA ENGINEER

- **Translated customer business requirements into shipped features**, breaking high-level needs into actionable technical tasks and leading delivery while mentoring engineers.
- **Acted as a primary technical liaison** between customers, engineering, and internal stakeholders, aligning product direction, technical feasibility, and delivery timelines.

- **Partnered directly with healthcare data customers** to modernize legacy data designs, converting complex datasets into efficient MapReduce workflows for analytics and reporting.
- **Designed and owned end-to-end data pipelines** using Java and Ruby, executed on Apache Spark, with responsibility for testing, performance, and ongoing maintenance.
- **Identified and remediated complex ongoing deficiencies in legacy AWS Spot Fleet architectures** that occurred in data set specific instances, improving system reliability, cost efficiency, and team productivity.
- **Configured AWS Spot Fleets and Cassandra-backed data models** to transform real-world healthcare data into scalable, analytics-ready systems.
- **Thrived in a startup environment**, operating across engineering, architecture, and customer-facing responsibilities.

INSIGHT GLOBAL/NTT DATA| BOSTON, MA| JANUARY 2019-JULY 2021

Software Developer

- **Led IAM data validation initiatives in collaboration with the CISO and security teams**, developed applications in **Python and Django** that expanded data collection and coverage across systems by **more than 3x** and reduced access review and reconciliation complexity from a **massive quarterly undertaking to a simple bi-weekly process**.
- **Owned development, deployment, and maintenance of public and private IAM endpoints**, supporting identity verification and access control for sensitive healthcare data focusing on workflows for forgotten password.
- **Built and operated an end-to-end automated data ingestion and validation pipeline** using Python and SQL to verify identity records, improve data quality, and support compliance and audit requirements.
- **Partnered with internal teams and external IAM stakeholders** to align access policies, validate entitlements, and resolve access issues in a scalable, automated manner.
- **Managed rollouts, updates, and incident response for production and legacy IAM systems**, working with customers to understand needs, followed by coordinating sensitive access changes and outages across internal and external users.
- **Translated complex identity and access states into clear, actionable narratives** for technical and non-technical stakeholders, enabling faster decision-making and execution.

NAVAL UNDERSEA WARFARE CENTER | NEWPORT, RI | MAY 2016-SEPTEMBER 2016

Pathways Program

- Selected as one of only ten selected for the Pathways program, effectively defined a formal project of record, learned the Navy System and development process; received commendations for superb work ethic and dedication.
- Volunteered to configure and debug a complex hardware installation of Linux with KVM and QEMU for Navy System while operating under strict deadlines and heavy workloads.
- Customized multiple Linux kernel builds, specified QEMU/KVM implementation to ensure on-time project completion; regarded as a subject matter expert with various aspects of hardware virtualization and various suites like VMware.
- Explored and experienced the tooling & engineering behind the physical process of building a submarine to better understand component interactions and personally built software on hardware deployed to field.

BOSTON UNIVERSITY-ENGINEERING PRODUCT AND INNOVATION CENTER | BOSTON, MA | JANUARY 2015-MAY 2015

Learning Assistant

- Automated effective inventory control and efficient utilization of budget in managing materials, supplies, and ordering for ~40 student projects; overhauled existing manual process by developing a one-of-a-kind website to streamline and standardize ordering, tracking, and order authorization to elevate overall workflow.
- Personally improved procurement speed as well as faculty approval timeline, resulting in more efficient utilization of the center.
- Provided support to students with fabricating simple & complex components on industrial equipment.
- Sought as a resident specialist with Hass Machine Centers, Vertical Mills, Lathes, Z Corp and MakerBot 3D printers, and a wide array of other Shop Tools; trained in use of all lab equipment, and recommended new approaches to improve student learning.
- Selected to tutor students in circuit design and provided regular debug guidance to students for lab and Arduino projects; coordinated with senior staff to ensure tutoring reliably met student needs and organizational standards.

CURRENT PROJECTS

Smart Home Cluster: Designed and developed a range of IoT devices for home automation using Home Assistant on a self-hosted Kubernetes (K3S) cluster. Implemented presence detection, daily task automation, and sensor integration with microcontrollers (edge) and digital twins. Managed product features, rollouts and updates.

Agentic AI Systems & RAG Research: Focused on AI systems and retrieval-augmented generation (RAG) research, designing and evaluating agentic architectures that integrate large language models with structured and unstructured knowledge sources. Conduct comparative analysis of prompt-based methods, LightRAG, and GraphRAG using controlled experiments, semantically perturbed datasets, and quantitative metrics including BERTScore and cosine similarity to assess robustness, retrieval quality, and faithfulness. Emphasis on translating research insights into production-ready RAG systems that support scalability, traceability, human-in-the-loop oversight, and Responsible AI requirements.

Built AI-augmented Selenium tooling integrated with n8n workflows, enabling resilient, self-healing browser automation that adapts to UI changes and reduces manual maintenance.

Applied AI-driven reasoning to browser automation, supporting adaptive navigation, intelligent retries, and semantic validation of complex web workflows beyond static selectors.

Task Queue Based LightRAG: Designed and implemented a task-queue backed LightRAG system using **Celery** and a **Django frontend**, enabling horizontal scale-out and parallel execution of ingestion, embedding, indexing, and retrieval tasks. Architected the platform to support multiple concurrent workflows while remaining extensible for consumption from Memory Agents, including future support for document deletion and re-indexing.

PocketIntel: An extensible personal intelligence platform, based on learnings from HUMINT and SIGINT knowledge, for capturing, validating, and querying structured facts and relationships about people. Architected scalable ingestion and retrieval pipelines using Flask, Celery, Neo4j, and Azure OpenAI to support relationship-aware queries, provenance tracking, and future schema expansion. Prioritized grounded, auditable information workflows over speculative generation, ensuring the knowledge system remains reliable, traceable, and adaptable over time.

ADDITIONAL CREDENTIALS

TECHNICAL SKILLS	**Current Certifications:** Azure AZ-900, Neo4j Certified Professional **Technical Skills:** Python, Pandas, Selenium, SQL, Spark, Bash, Golang, Ruby, Excel, API Development, Distributed Systems; AI & Machine Learning, Retrieval-Augmented Generation (RAG), LLM Systems, Azure OpenAI, OpenAI API Integration, Responsible AI, Human-in-the-Loop Systems, Computer Vision, OpenCV, Cloud & Infrastructure: Microsoft Azure (AZ-900 Certified), AWS, Docker, Kubernetes, QEMU, KVM, VMware, VirtualBox, Virtual Hard Disk, Server Racking; Operating Systems: Windows (XP, 7, 10, Server 2012), Linux (Ubuntu, CentOS, Arch Linux), Custom Linux Kernels; Embedded & Hardware Systems: Arduino, LSL, Digital Twins, Electromechanical Systems, VR; Manufacturing & Fabrication: CNC Mills, Bridgeport Mills, Machining, Aluminum & Steel Fabrication, GibbsCAM, 3D Printing, Custom Hardware Builds;
HONORS & AWARDS	Senior Design Entrepreneurship Award May 2018, Special Award from the American Society of Safety Engineers, Special Award from the Harvard Biophysics Society, Special Award from the United States Air Force (23/50)