

Josh Mosier

Software Engineer (Applied AI / LLMs) building production RAG, document parsing, and automation for government programs.



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EXPERIENCE

MINDPETAL | SOFTWARE DEVELOPER

Sep 2022 - Present

- Lead engineer on applied AI systems for HRSA, delivering production LLM/RAG pipelines, intelligent process automations, and document-understanding workflows over large, sensitive datasets.
- Built document-processing pipelines for federal programs, including NLP + OpenCV extraction over 500k mixed digital and scanned PDFs for the Provider Relief Fund to pull tax and payment data using offline/local methods.
- Built and productionized an LLM-assisted grant summary editor for HRSA (S3 event-triggered AWS Lambda + Bedrock): serverless automation performed prompt augmentation, and applied non-destructive, track-changes edits (grammar, acronyms, de-duplication); validated quality with 2,000+ blinded A/B preference datapoints and saved ~8 minutes per application.
- Delivered an AI assistant for Single Audit onboarding: automation triggered on audit assignment that generates an executive summary and proposes initial answers to common auditor questions using evaluated, grounded RAG over audit documents; cut time-to-first-draft by ~45 minutes per audit; presented use case to CFO leadership.
- Delivered an offline PII-redaction pipeline for HR resumes/CVs (1,000+ PDFs / 12,000+ pages) using regex for structured PII and ensemble NER; shipped in under 2 weeks for offline/on-device use (no data egress).

BLUE COLLAR ANALYTICS | SOFTWARE DEVELOPER

May 2020 - Aug 2020

- Developed web-based multi-objective decision analysis tools, implementing algorithms and dynamic visualizations to explore complex trade-offs.

NOBLIS, INC | DATA SCIENCE / ML INTERN

May 2019 - Mar 2020

- Analyzed large-scale publication data (200M+ papers) to detect patterns of dishonest behavior in academia; constructed co-author graphs to surface suspicious clusters. First-place internal hackathon.

SELECTED PROJECTS

CMS CRUSHING FRAUD CHILI COOK-OFF | FINALIST (MINDPETAL TEAM)

2025

- Built anomaly detection + graph analysis over Medicare claims LDS: HDBSCAN clustering of modifier behavior, hospice network risk signals, and an agentic LLM layer producing rationale-backed case packs for investigator triage.

MINDPETAL AI LAB | OSHA SAFETY ANALYTICS

2023

- Led team developing predictive ML models over public OSHA inspection data; built data pipelines, trained classifiers to forecast inspection outcomes, and presented insights to OSHA representatives.

ON-AIR KICKSTARTER | CAMPAIGN FOUNDER

2021

- Crowdfunded \$10,000 and shipped 100+ "On-Air" status lights, designing the hardware, sync applications, and WiFi provisioning software and managing small-batch manufacturing and fulfillment.

EDUCATION

VIRGINIA TECH (2021)

B.S. MECHANICAL ENGINEERING
BLACKSBURG, VA
Coursework: Software Design, Data Structures, Robotics & Automation

SKILLS

LANGUAGES

Python • TypeScript • SQL • Java

AI / LLM

Prompt engineering • RAG • Eval • Agentic workflows • Structured outputs • Vector search • NLP • OCR

DATA & CLOUD

AWS (S3, Lambda, SageMaker, Bedrock) • OpenAI / Anthropic APIs • Azure OpenAI • Terraform • PostgreSQL

TOOLS & LIBRARIES

LangChain • DSPy • llama.cpp • PyTorch • scikit-learn • Chroma • Streamlit • FastAPI • Docker • Git

PUBLISHED WORK

Communicating Inferred Goals With Passive Augmented Reality and Active Haptic Feedback (2021).

Understanding Deleted File Decay on Removable Media using Differential Analysis (2017).