

Shailesh Dudala

SENIOR APPLIED AI ENGINEER

shaileshdudala@icloud.com | shaileshdudala.com | LinkedIn | GitHub

SUMMARY

Applied AI engineer with more than seven years across healthcare, insurance, document intelligence, predictive ML, and MLOps. Builds governed systems that turn complex inputs into typed, validated workflows with explicit human-review boundaries, observable traces, and production-minded evaluation.

CORE EXPERTISE

Agentic AI and LLMops | Document intelligence, OCR, and RAG | Healthcare interoperability (FHIR and HL7) | Predictive ML | Human-in-the-loop workflow design | Evaluation and observability | Local/on-prem inference | ML platforms and MLOps

PROFESSIONAL EXPERIENCE

Applied AI Engineer Consultant | MetLife via Bizintex

2026 - Present

Designs governed document and claims workflows with typed contracts, validation gates, reviewer fallbacks, and trace telemetry.

- Supported approximately 90% lower document-handling effort and approximately 50% shorter time-to-claim-payable in a measured claims workflow.
- Separated model reasoning from deterministic workflow authority so uncertain cases remain visible and reviewable.

Lead DS/ML Engineer Consultant | Inland Empire Health Plan via Infowave

2023 - 2025

Led applied ML across local document review, healthcare quality evidence, predictive analytics, fraud/waste review, and MLOps.

- Cleared a 7,000-case review backlog with approximately 90% lower review time using a local OCR/RAG workflow inside the data boundary.
- Improved automated quality-measure closures by 20% and reduced transportation waste by 18% in their respective measured workflows.
- Built reviewer paths and evaluation around OCR, retrieval, and prediction failure rather than treating model confidence as authority.

Lead Data Scientist / Product | Hexplora

2020 - 2023

Built and scaled a predictive healthcare analytics platform spanning risk models, data products, reporting, and care-manager workflows.

- Supported \$500K in new revenue and contributed to approximately \$3M in client performance-based payouts across the broader program.
- Reduced model deployment cycles by approximately 50% through reusable delivery and MLOps patterns.

Data Science and Biomedical Informatics Roles | CommonSpirit Health; Health New England; University of Chicago; AbbVie

Earlier foundations

Worked across hospital analytics, provider data, biomedical research, clinical sensors, genomics, and public-health modeling.

- Delivered analytics across 142 hospitals and validation workflows covering more than 100,000 provider records.
- Reduced manual provider-review effort by 60% in a measured workflow.

SELECTED ENGINEERING WORK

- Claims Intelligence - sanitized professional case study covering typed extraction, deterministic validation, exception routing, human review, and audit telemetry.
- On-Prem RAG/OCR - local document-review architecture with page-level provenance, retrieval evaluation, and explicit fallback states.
- Let's Talk Doc - team recipient, Global HL7 AI Challenge Transformative Impact in Healthcare Award (2025); individual implementation contribution remains resume-supported and qualified.
- LLM Steering Lab - public local-first workbench for activation steering, experiment manifests, model inspection, and repeatable evaluation.

TECHNOLOGIES

Python, SQL, TypeScript, PyTorch, scikit-learn, XGBoost, LangGraph/LangChain patterns, OCR and PDF parsing, FHIR R4, HL7, FastAPI, React, Docker, Kubernetes, MLflow, CI/CD, Azure, AWS, local model serving, observability and evaluation tooling

EDUCATION AND CREDENTIALS

- M.S., Biomedical Informatics - University of Chicago, 2019
- Summer School, Public Health Modeling - Yale University, 2019
- B.Tech., Computer Science and Engineering - SRM University, 2018
- AWS Certified Machine Learning Engineer - Associate
- Microsoft Azure AI Fundamentals (AI-900); Microsoft Power BI Data Analyst (PL-300)

PUBLICATION NOTE: Professional systems are intentionally sanitized. No PHI, PII, employer-confidential artifacts, proprietary workflow rules, credentials, or private production details are included.