

CAPABILITY STATEMENT

Data Platforms · AI/ML Solutions · Secure Infrastructure · Strategic Advisory

TWO-TRACK POSITIONING

TRACK A · COMMERCIAL

Enterprise Data & AI Platforms

Production cloud data lakes, ETL pipelines, and AI tooling for mid-market enterprises in construction, logistics, and manufacturing.

TRACK B · DEFENSE AI

Air-Gapped AI & Secure Infrastructure

On-prem LLM deployments, GPU clusters, and hardened, auditable pipelines for government workloads.

ABOUT LUMBRIDGE

With over 50 years of combined AI experience, Lumbridge is a Chicago-based data engineering and AI firm with deep, hands-on **expertise in air-gapped AI deployment, large-scale model fine-tuning, secure on-prem GPU infrastructure, and enterprise data platforms.** We design, build, and operate production systems for mid-market commercial and federal customers.

Lumbridge has been building production ML models before ChatGPT, for industries including finance, legal, and healthcare, under SOC, ISO, HIPAA, and PII compliance. The team has also led projects coming from federal and state programs for grants and contracting.

Leadership pedigree predates the company: Principal Investigator experience on SBIR-funded AI R&D, and cybersecurity engineering delivered on classified defense-aircraft programs under active DoD clearance.

CORE COMPETENCIES

DATA PLATFORMS

Enterprise cloud data lakes, ETL pipelines, medallion architecture, and multi-system integration.

AI / ML

On-prem LLM, RAG systems, predictive analytics, and AI-assisted workflows.

SECURE INFRASTRUCTURE

Experience with DISA STIG-hardened environments, FIPS-compliant encryption, RHEL 9, OpenShift, Docker, and vLLM serving.

CLOUD & ANALYTICS

Microsoft Azure, Fabric, Power BI, Purview, AI Foundry, OneLake, M365, and equivalents on AWS and GCP.

SYSTEMS INTEGRATION

ERP unification (e.g. CMiC, HCSS, Sage, Procore), IoT and telematics (e.g. Samsara), and custom API development across construction, logistics, and manufacturing.

MANAGED AI SERVICES

Train and enable stakeholders and C-suite leaders who want to bring AI into their organization but do not know where to start; managed rollout, governance, security, and adoption. Ongoing services to train all departments and create reusable LLM skills for specific use cases.

COMPANY DATA

LEGAL NAME	Lumbridge LLC
STRUCTURE	Limited Liability Co.
STATE	Illinois (IL-05)
FOUNDED	February 7, 2022
SAM STATUS	Active
SIZE	Small Business · < 15

NAICS & PSC

541512	Comp. Sys. Design
541715	R&D Eng. / Phys. Sci.
541511	Custom Programming
518210	Computing Infra / Data Proc.
334111	Electronic Computer Mfg
541614	Logistics Consulting
541611	Management Consulting

PSC DA01-DA10 · DB01 · DC01 · DJ01 · DK01 · DF01 · 7B20-21 · AR12-13

CERTIFICATIONS

Microsoft Cloud Partner · MAICPP, Partner ID 7109632

CTA Small Business Enterprise (SBE) · Chicago Transit Authority, in progress

Architecture designed to be compliant with NIST SP 800-171 (the control basis for CMMC Level 2), NIST 800-53, and NIST AI RMF; CMMC Level 1 self-assessment readiness in place.

DIFFERENTIATORS

01

On-prem AI Expertise

Hands-on experience deploying on-prem air-gapped LLMs and custom ML model pipelines: vLLM, custom CUDA libraries, NVIDIA Triton Inference Server, signed model weights, and multi-modal training & inference with continuous learning.

02

Cleared Leadership

Anchored by leadership with an active DoD clearance and classified fighter-aircraft program experience.

03

Proven Commercial Traction

Production data platforms running at mid-market enterprises today, with measurable ROI.

04

Proven Document AI at Scale

Team experience examples include fine-tuning document AI across 100M+ page workflows, classification multi-modal-models capable of differentiating 1,000+ document types, and custom geometric graph models for novel NLP use cases.

RESEARCH CREDIBILITY

Lumbridge operates an active research arm, Lumbridge Research, developing mathematically rigorous methods for AI interpretability, the foundation for explainable, auditable model behavior. Using advanced mathematics (algebraic topology, noncommutative geometry, and algorithmic information theory), the program builds computable, verifiable tools for understanding why a model produces a given output, rather than treating it as a black box. The work is architecture-agnostic and directly underpins the explainable-confidence, anomaly-detection, and hallucination-detection capabilities required for high-assurance government AI. Beyond AI safety and interpretability, the same system underpins research into novel inference paradigms for all types of information processing.

External validation: University of Chicago research partnership, Illinois Innovation Voucher grant, Ansys Startup Fund, and Polsky Center affiliation. The program's 20+ collaborating researchers include people affiliated with UChicago, UIC, the Illinois quantum center, AIM Photonics, Microsoft Quantum, and James Webb affiliated research who have reviewed or collaborated in some capacity, plus engagement with the algorithmic information theory & graph neural network communities within DeepMind's research groups. Prototype work in Ansys with photonics / quantum-hardware labs extends the same research agenda.

PAST PERFORMANCE

Enterprise Data Platform

MID-MARKET GC

1,000+

HOURS / YEAR SAVED

Unified 5+ disconnected systems (ERP, finance, and field operations) into one governed source of truth, surfacing executive reporting that was previously **impractical to assemble by hand** and now delivered in minutes. Now PMs can forecast using standardized data and business decisions are data driven.

High Performance Computing

REAL TIME PROCESSING

Petabytes

LARGE SCALE DATA PROCESSING

Data pipelines, infrastructure, and inference services built for large scale data projects operating at **nanosecond and picosecond** scales.

Datacenter GPU Infrastructure

ON-PREM DEPLOYMENT

LLM + RAG

SECURE DATA ACCESS AND PROCESSING

Designed and operated **air-gapped GPU clusters** serving fine-tuned LLMs and RAG pipelines entirely on-premise in production, with complete audit logging of every action.

AI Training & Enablement

EXECUTIVE ADOPTION

C-suite

AI ADOPTION PARTNER

Partners with **C-suite leaders navigating AI adoption** across their organization, surfacing high-value use cases and translating them into funded projects. Managed AI services provide ongoing support for training, use case development, security, and administration.

FEDERAL POC

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CONTRACTING POSTURE

Available to prime or subcontract. CMMC-certified partner engaged for Level 1 readiness.

UEI
GHU6U1RUBPY8

CAGE
1ZWX7

PRIMARY NAICS
541512

SIZE
SMALL BUSINESS

SAM
ACTIVE