

Juan Acosta

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SUMMARY

AI architect and data science leader who takes systems from prototype to production in regulated environments. Architected and built **Project LOOM**, a clinical trial documentation system validated and tested by Duke Clinical Research Institute, alongside production multi-agent systems for oncology summarization and payor appeals. Previously led a **10+ person data science organization** and built a startup's professional services arm into a profitable line of business, delivering ML that served **2M+ daily predictions** across **10M+ Medicare and Medicaid lives** and contributed to **\$81M+ in Medicare Trust Fund savings**.

PROFESSIONAL EXPERIENCE

Founder & Principal Consultant Acosta-Li LLC

October 2024 – Present

- Lead development of **Lucy**, a multi-agent strategy advisor for postsecondary transformation (Google ADK, Azure OpenAI, A2A) — institution matching across 7,000+ NCES records, transformation-stage inference, and semantic retrieval over a curated research corpus. AI tools for education at the **Bill & Melinda Gates Foundation**, subcontracted through Alithi Management Consulting (December 2025 – present).
- Advise **Sylvan Labs** on applied AI (January 2026 – present); engagement expanded into hands-on delivery in 2026.
- Built and maintain **Atlas Mineral** for Alpax, a B2B SaaS platform for precious metal order reporting and tracking running \$1M+ monthly.
- Prior engagements include **SpyCloud** (supply chain attack vulnerability), **Capital Pulse** (financial risk and forecasting), and **Beheld**. Manage a bench of 4 data scientists and 2 project managers.

Director of Data Science Health Universe

October 2024 – July 2026

Began as a client engagement through Acosta-Li; full-time April 2025 – July 2026.

- **AI architect and primary developer of Project LOOM**, an i-Cubed Center clinical trial documentation system validated and tested by Duke Clinical Research Institute — generates protocols, manuals of procedures, safety plans, and recruitment materials as one consistent set, detecting contradictions introduced by edits.
- Built an oncology summarization system that ingests complete patient records, disambiguates among multiple primaries, and assembles a full clinical history per cancer.
- Built an agent-to-agent clinical appeals system that submits and appeals pathology invoices to payors, pre-screening justifications for likely denials and surfacing supporting evidence from patient history.
- Led pre- and post-sales client engagements; fine-tuned LLMs for medical NER supporting patient summaries, prior authorizations, and trial recruitment.

Senior Manager, Data Operations Babson Diagnostics

April 2024 – August 2024

Client of ClosedLoop.ai from 2022; joined full-time in 2024 to complete the program.

- Developed and operationalized the algorithmic platelet assay — real-time ML (Docker, MongoDB, Python) taking small-volume platelet counting from research prototype to commercial launch — with integrations linking Sysmex analyzers, LIS, and Salesforce; led pipelines for order tracking, sample lifecycle, and financial monitoring at 1,000+ daily samples.

Manager, Data Science ClosedLoop.ai

June 2021 – March 2024

Reported directly to the CEO as a non-voting member of the executive team; no CTO in place.

- Led the data science organization (**10+ data scientists, engineers, and project managers**) and built the professional services team into a profitable line of business; technical advisor for 30+ enterprise clients from pre-sales through deployment.
- Architected distributed ML pipelines on AWS (SageMaker, Jenkins CI/CD) powering **2M+ daily predictions**; built EHR/FHIR → SQL pipelines with feature engineering, cohort logic, and drift and bias monitoring.
- Designed predictive models for disease progression and admissions contributing to **\$81M+** in Medicare savings; platform took Best in KLAS for healthcare AI/ML, 2021–2023.

Software Engineer Perfaware

July 2020 – June 2021

- Built scalable backend systems for pharmacy curbside pickup and order management during COVID-19.

- Developed and deployed a regression model for pediatric prehypertension prediction integrated into clinical decisions.

SELECTED RECOGNITION & PUBLICATIONS

- Model work presented at the **Heart Failure Society of America** and the **American Diabetes Association**; published in the **Journal of Cardiac Failure**.
- Preventative health programs built on this work recognized by **NAACOS**; coverage in the **Wall Street Journal**.
- **Best in KLAS**, Healthcare AI/ML (ClosedLoop.ai), 2021–2023 — ranked above Epic and Cerner.
- Project LOOM validated and tested by **Duke Clinical Research Institute**.

EDUCATION

M.S. Computer Science — Boston University

B.S. Mathematics | B.A. Economics — The University of Texas at Austin

TECHNICAL SKILLS

GENAI & AGENTIC SYSTEMS

Multi-agent orchestration (A2A protocol, Google ADK, MCP, LangGraph), LLM routing (LiteLLM), RAG and hybrid retrieval, fine-tuning (medical NER), evals (inspect-ai), observability (Langfuse), inference cost optimization

ML & DATA SCIENCE

PyTorch, Hugging Face Transformers, scikit-learn, TensorFlow, Spark, SHAP, drift and bias monitoring

HEALTHCARE DATA

FHIR, HL7, X12 EDI 837/835, ICD-10, CPT/HCPCS, LOINC, SNOMED, RxNorm, EHR integration, HIPAA/PHI-aware design

PLATFORMS & CLOUD

Python, TypeScript, SQL, R, Rust — FastAPI, Next.js, React, Svelte — PostgreSQL, MongoDB, Snowflake, AWS (SageMaker, Lambda, S3), Azure (Azure OpenAI, Cosmos DB), GCP (Vertex AI, BigQuery), Docker, Kubernetes, GitHub Actions

ALSO

Co-Founder & Director of Coffee Mù Coffee ATX

February 2025 – Present

- Co-founded a specialty coffee shop and importer of Chinese coffee, running sourcing and import logistics end to end; oversee operations, finance, and performance tracking.

Professional Soccer Player (Left Wing) Baruta FC — Venezuelan liga FUTVE

2009 Season