

Case Study: IRON — AI-Driven Sales Enablement for AWS Higher Education & Research

A Case Study in Turning Discovery into a Strategic Asset

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Architected and led by **Zaid Marji**, Chief Technology Officer, Sapient Advisors

Overview:

AWS sought to accelerate adoption within Higher Education and Academic Medical Centers, where research workloads (HPC, HIPAA, analytics) were expanding, but traditional IT-only outreach led to slow adoption. **Project IRON** introduced AI-driven market intelligence to business-development and account teams, revealing *who* was doing compute-intensive research and *how* to engage them with relevant AWS solutions.

Challenge:

- **Decentralized decisions:** Purchasing power sits with departments and principal investigators, not central IT.
- **Low visibility:** Little clarity on which researchers were running compute-heavy projects.
- **Long cycles:** Generic cloud pitches stalled; teams needed context-rich, peer-validated engagement.

Goal:

Build a scalable, data-driven way to uncover active researchers, map their compute needs, and equip BD with actionable insights.

Solution — *Project IRON (Intelligent Research Outreach Network)*

What it is: An internal intelligence platform combining crawlers, early AI/ML, and a knowledge graph to surface high-propensity research opportunities for AWS.

Core Capabilities:

- **Automated Data Ingestion** — Crawled **PubMed**, **arXiv**, and other journals; extracted authors, institutions, topics, and mentions of compute/HPC.
- **Knowledge Graph Construction** Linked researchers, institutions, topics and AWS use cases to expose clusters of opportunity.
- **Sales Enablement Dashboard** — Ranked “high-propensity” opportunities and let BD filter by topic, institution, or region to reach decision-makers directly.
- **AI-Assisted Insights (pre-LLM & early LLMs)** — Semantic clustering and relevance scoring to prioritize outreach and align case studies.

Results & Impact:

Metric Outcome
Adoption Growth+15–20 % new AWS usage among small and mid-sized universities & medical centers
Sales EfficiencyShorter cycles by connecting BD directly to PIs and department heads
Market IntelligencePersistent graph of **100 K** + researcher-institution

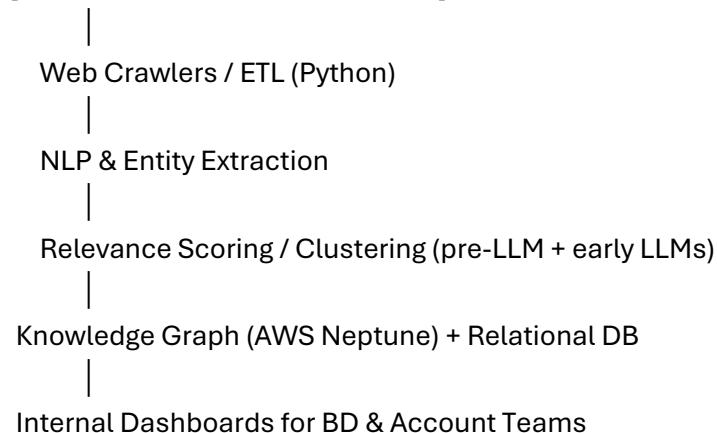
relationships **Cultural Shift** Expanded definition of “customer” from **IT-only** to **full academic ecosystem**

Takeaway:

IRON transformed AWS’s sales model into a **data-driven discovery engine** for research workloads.

Architecture (At a Glance)

[Sources: PubMed, arXiv, Journals]



Technologies Used:

- **AWS:** S3, Lambda, DynamoDB, Neptune (Knowledge Graph), SageMaker
- **Data & AI:** Python, crawlers, NLP pipelines, semantic clustering (pre-LLM + early LLMs)
- **Applications:** Internal UI dashboards for search, ranking, and outreach workflows
- Strategic Significance
- **Repeatable GTM Pattern:** *Data discovery → researcher engagement → solution adoption* applies across life sciences, government R&D, and energy.
- **Bridge Between Product and Revenue:** Demonstrated how AI and knowledge graphs directly drive cloud adoption in non-commercial verticals.
- **Scalable Insight Fabric:** New sources and taxonomy tags can be added without re-architecting the system.

Role & Leadership:

Zaid Marji — Chief Technology Officer, Sapient Advisors

(Formerly Senior Solutions Architect at AWS)

Conceived and led Project IRON end-to-end — from vision and architecture to data models, AI pipelines, and sales integration — bridging engineering, business development, and AI/ML teams to achieve a 15–20 % increase in adoption.

Suggested Visuals

- **Impact in Numbers:** +15–20 % adoption · 100 K + graph records · 40 % faster outreach
- **Flow Diagram:** Ingestion → NLP → Graph → Ranking → BD Outreach
- **Badge Row:** S3 · Lambda · DynamoDB · Neptune · SageMaker · Python · NLP