



LLM-Augmented Data Engineering: A Blueprint for Medallion Layer



Case Study



Background & Challenges

A major US sports league relied on manual processing of 1,400+ operational and player performance reports across SQL, R, and Excel workflows. The fragmented reporting ecosystem led to delays, inconsistencies, and limited KPI visibility, hindering scalability and executive decision-making.



Objectives

To modernize legacy reporting workflows by building an automated, standardized, and scalable Medallion-layer data engineering framework capable of accelerating reporting delivery and improving KPI traceability.



Approach

- **LLM-Assisted Metadata Extraction:** Leveraged AI-driven workflows to decode legacy R/SQL scripts, extract KPI lineage, and automate metadata mapping into a standardized Medallion architecture
- **Automated SSRS Modernization:** Streamlined SSRS reporting workflows through automated logic extraction, report query recommendations, and reusable reporting structures
- **Centralized Reporting Framework:** Built scalable gold-layer tables and browser-based reporting access to improve reporting consistency, governance, and operational efficiency



Process Flow

- **Source Intelligence Extraction:** Collected legacy scripts, SQL logic, and report dependencies across fragmented reporting systems
- **KPI & Entity Mapping:** Automated KPI lineage mapping, metadata extraction, and reporting relationship identification using LLM workflows
- **Medallion Architecture Standardization:** Structured reporting metadata into Bronze, Silver, and Gold data layers for scalable reporting modernization
- **SSRS Workflow Automation:** Automated report query suggestions, reusable templates, and reporting transformation workflows
- **Gold Layer Deployment:** Generated centralized reporting-ready datasets and optimized SSRS-compatible data pipelines



Business Benefits

- **Operational Efficiency:** Reduced multi-step manual reporting workflows and engineering dependency across large-scale reporting operations
- **Scalability & Reporting Automation:** Enabled standardized generation and modernization of 1,400+ operational reports
- **Data Integrity & Governance:** Improved KPI traceability, reporting consistency, and documentation across reporting ecosystems
- **Executive Decision Support:** Delivered faster, centralized, and high-accuracy reporting insights for league operations and analytics teams

Key Results

12.5%

reduction in manual engineering effort

90%

reduction in reporting turnaround time



About Straive

At Straive, we operationalize Data Analytics and AI for global enterprises and work with several Fortune 500 companies. We don't just build top-tier data analytics and AI solutions— we integrate them seamlessly into your core workflows. This approach drives enhanced efficiency, improves user experience, and boosts client revenue, setting you apart from the competition.

Straive serves clients in various industries, including Banking and Financial Services, GCC, Retail and CPG, Media, Sports and Entertainment, EdTech, Science and Research, Logistics and Supply Chain, Education, and Pharmaceutical and Life Sciences.

Our strategically positioned resource pool operates in ten countries: the Philippines, India, the United States, Nicaragua, Vietnam, the United Kingdom, Singapore, South Africa, UAE, and Canada.

