



## **Tiger Analytics Powers Faster Data-to-Insights Visualization For Pharma Co with AWS SageMaker**

Tiger Analytics partnered with the client to build a comprehensive model-driven solution, leveraging predictive and patient analytics to chart oncology patient journeys across different indications. This in-house solution was built to democratize patient and physician insights across markets and disease areas through an integrated data platform, equipping the client team to profile relevant Healthcare Providers (HCP) more accurately.

# The Background

Our client is a leading global pharmaceutical company headquartered in the United States. It focuses on researching, developing, and commercializing innovative medicines, vaccines for human health, and animal health products.

The project ask was to co-build an in-house integrated data platform to:

- / Create a richer view of the patient journeys and understand the treatment approach, providing more detailed insights
- / Understand and identify patient journey opportunities, HCP profiling, and account activation opportunities, as well as equip marketing teams with actionable insights for better resource planning and strategic decision-making

## Key Challenges

- / **Requirement-level challenges:** Defining the features and business rules required for model development required clinical expertise to understand the nuances of the data and related features. It also required extensive EDA ( Exploratory data analysis) efforts and iterations
- / Defining the market definitions and Line of Therapy required a comprehensive understanding of the oncology procedures and processes
- / Availability of comprehensive data on patient journeys over the historical period required extensive data profiling and consolidation activities
- / **Implementation-level challenges:** Market basket definitions were not in sync among data engineering, ML, and UI Pipelines, and business rules were defined in multiple layers
- / **Operational** – Knowledge sharing across PODs working on different indications across vendors needed streamlining and better synchronization

## Our Solutions

Tiger Analytics partnered with the client to build a comprehensive model-driven solution using AWS SageMaker to understand and predict oncology patient journeys across different indications.

The Tiger team leveraged the existing anonymized patient-level claims data (APLD) and added a new layer with EMR data from third-party data providers. They also used near real-time prediction using the Weekly APLD data to help quickly access the patients for their betterment compared to the old process, which used two-month-old data to generate insights. As part of this model prediction, each indication leveraged ~300-400 features as part of the model-ready datasets to understand various clinical characteristics and the medications used. This helped to improve the accuracy of patient identification instead of relying only on single source, traditional super confident rule-based executions.



## Tech Stack

/ SageMaker

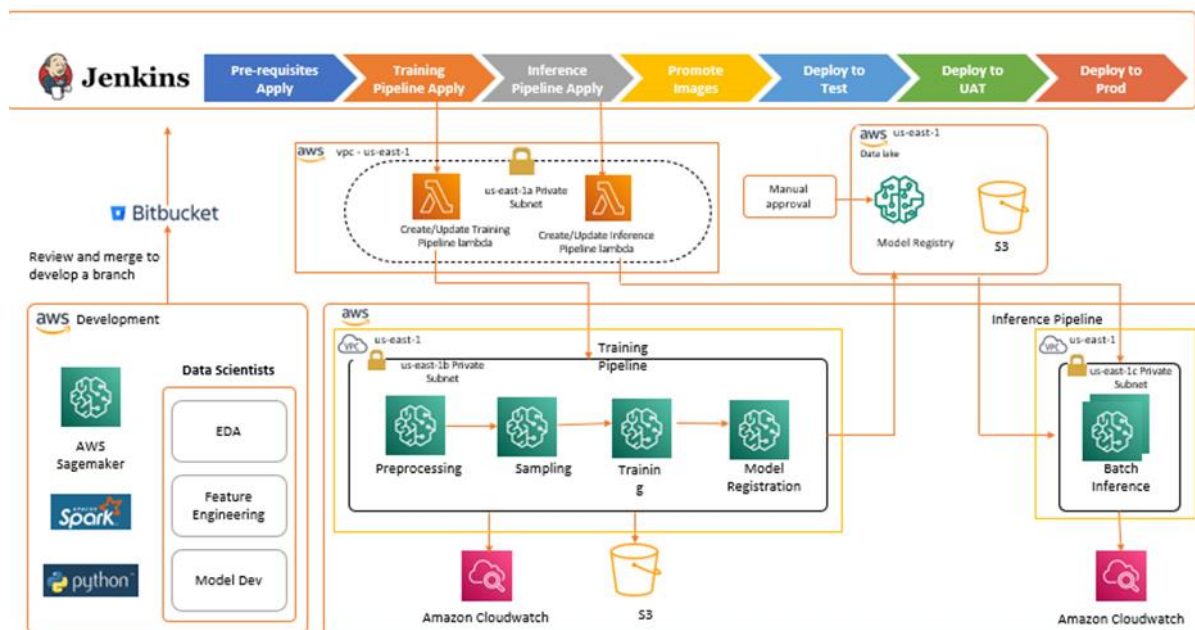
/ Lambda

/ Glue

/ S3

/ AWS Cloud Watch

# Solution Architecture



## Value Delivered

- Better quality data output:
  - More inputs: From a single source, traditional super confident rule-based executions, to ~300-400 features as part of the model-ready datasets.
  - Fit-for-purpose data: This has resulted in more nuanced HCP mapping insights resulting in better quality leads and informing smarter targeted marketing decisions.
  - Improved data recency for agile decision-making: patient journey mapping and insight reports now utilize APLD and weekly claims data, enhancing data freshness and helping identify early-stage opportunities. This process, which previously took 1 month, is now updated on a near real-time basis, with weekly updates.
- Improvement in commercial targeting of HCPs and patient engagement
- Improved demand/supply planning and strategy with a more comprehensive and detailed view of the patient volumes
- Transitioning from a third-party solution to an in-house solution provided more flexibility and ease in fine-tuning the solution to cater to the client's unique business needs and specific use cases, thus reducing costs to the company



## About Tiger Analytics

Tiger Analytics is a global leader in AI and analytics, helping Fortune 1000 companies solve their toughest challenges. We offer full-stack AI and analytics services & solutions to help businesses achieve real outcomes and value at scale. We are on a mission to push the boundaries of what AI and analytics can do to help enterprises navigate uncertainty and move forward decisively. Our purpose is to **provide certainty to shape a better tomorrow.**

Being a recipient of multiple industry awards and recognitions, we have 4000+ technologists and consultants, working from multiple cities in 5 continents.

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