HEALTHCARE ANALYTICS FOR PHARMA

MetiStream & Cloudera

Tapping Real World Evidence (RWE) to achieve better value in Pharma. A comprehensive and interactive analytic platform for machine learning to drive improved patient outcomes

Industry
Life Science & Pharma

Website
www.metistream.com

Company and Product Overview
MetiStream specializes in making big data and analytic solutions faster and more accessible. Located in the Washington DC area and founded by healthcare and life sciences industry experts, we offer a product called Ember, an intuitive and interactive healthcare analytics platform that delivers AI and machine learning capabilities.

MetiStream's Ember platform provides out-of-the-box advanced analytics capabilities to eliminate over 50-60% of costly ETL and data integration activities, build robust healthcare analytic models, and allow institutions to operationalize those models in days vs. months.

Solution Highlights

- Ingest and process variety of healthcare and biological datasets spanning claims, EHR, omics, Rx and responses, clinical trials, and SDOH data
- FHIR-enabled to ease healthcare data interoperability and application development
- Model-driven interactive user interface to enhance collaboration
- Robust analytic model repository and execution engine to accelerate operationalization of analytics

Benefits

- Automate the process of extracting, processing and analyzing unstructured clinical notes within the EHR in batch or real-time.
- Use patient EHR and genomic data to develop targeted clinical solutions
- Use Real World Evidence to accelerate safe and effective cures
- Decrease time and cost of analytic deployments by over 60%
- Ingest, process, conduct Quality Control, and apply advanced analytics such as Machine Learning (ML) against massive volumes of genomics data

Industry Overview

Healthcare organizations struggle to access data and build meaningful interactive analytics that can be shared with data analysts, patients, clinicians and staff in real-time. Given the availability of big data in healthcare, organizations are focusing on how they can use data insight to improve both individual patient outcomes and positively impact population health at-large. However, factors such as the lack of skilled data analysts can limit the adoption of healthcare solutions. Healthcare payers and providers must seek cost-effective open-source solutions because many current high cost solutions, along with operational gaps between payers and providers, could limit the growth and success of this market.

Product Overview

MetiStream's healthcare analytics solution is called Ember - named after the marriage of FHIR (Fast Healthcare Interoperability Resource) and Spark. The solution empowers researchers, analysts and data scientists to build their own analytics and gain insight to support the development of targeted therapies to improve patient care. Ember extends the next generation healthcare interoperability standard called FHIR to standardize healthcare data and accelerate predictions around patient risks while improving healthcare operations.

Healthcare Analytics Solution

The solution empowers life sciences organizations to leverage machine learning to gain insight from massive volumes of unstructured healthcare and biological data, delivering success with multiple use cases. By combining machine learning and analytics from Cloudera Enterprise and Cloudera Data Science Workbench, with the MetiStream Ember platform's ability to ingest and build models on everything from clinical notes to genomic data, healthcare organizations can cost effectively enhance genomic research and accelerate time to patient insight.

Supporting Clinical Trials

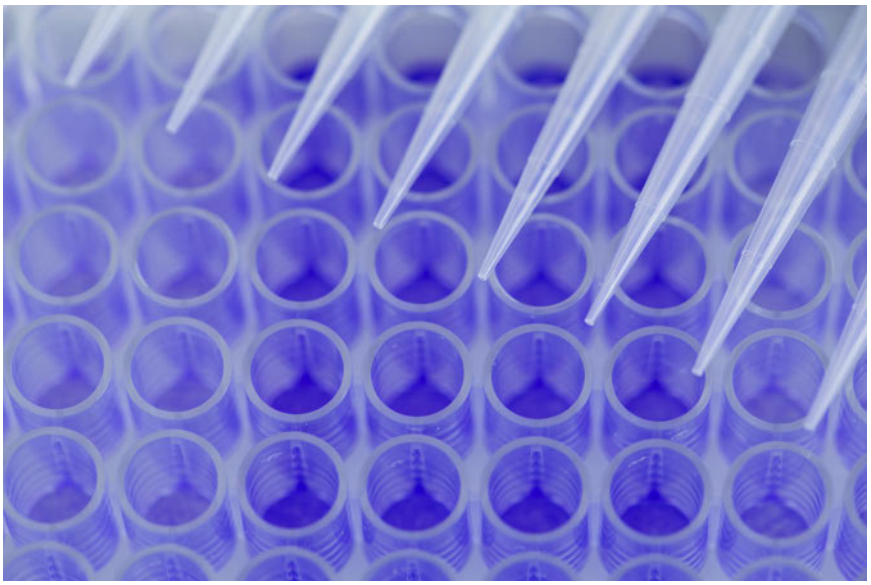
Leading pharmaceutical organizations are now applying Natural Language Processing to clinical notes. These rich sets of clinical data can now be purchased just like claims data and are also available to enhance clinical trials. Your HEOR, epi and pharmacovigilance teams can be on the leading edge of finding signals and differentiators with this new data source. However, NLP is very hard to build and deploy if you build it yourself.

MetiStream's Ember solution, when used together with Cloudera's modern platform for machine learning and analytics, brings you curated medical dictionaries, pre-built user interfaces, and the chance to use clinical notes keywords in your cohort definitions. Diverse data sets ranging from EHR, clinical trials, Rx and DX, and genomics data can be combined to support pharmacogenomics initiatives in examining the roles particular genes play in a patient's drug response and help physicians prescribe more effective doses. This can lead to fewer ARs (adverse reactions) and help lower care costs.

Real World Data

By leveraging the scalable, massively parallel, in-memory power of Apache Spark, Cloudera and MetiStream support the end-to-end process of extracting, processing, storing and analyzing clinical text data in a fraction of the time this once-manual job required.

With the new solution, organizations can now leverage NLP to discern clinical terms and then normalize these terms to well-known ontology codes, most notably ICD-9, ICD-10, UMLS CUI, Snomed-CT, and RxNorm. The result is a solution that allows healthcare organizations to flexibly search their entire notes history for any text, phrase, term, acronym, or code and return the date and time stamp along with other patient information within milliseconds. Coupled with open source Apache Spark, the now annotated clinical data can be used to train a model in Cloudera Data Science Workbench and develop risk predictions, allowing organizations to capitalize on machine learning and AI. The goal for organizations is to amass real world evidence through accelerated real world data analysis, and advance insight into safety and efficacy.



About Cloudera

At Cloudera, we believe that data can make what is impossible today, possible tomorrow. We empower people to transform complex data into clear and actionable insights. We are the leading platform provider for machine learning, analytics and data management built for the cloud. The world's largest enterprises trust Cloudera to help solve their most challenging business problems.

Learn more at cloudera.com

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