

AWS Sagemaker and Amazon Quicksight powered disease prediction and patients insights generation solution for a Pharmaceutical Major

Client is a leading global pharmaceutical company headquartered in the United States. The company focuses on the research, development, and commercialization of innovative medicines, vaccines, and animal health products.

Their objective was to develop a solution to generate insights on patients across multiple diseases and markets, predict the stage and nature of cancer for the patients, and deliver specific medications through campaigns to eligible patients.



The Background

Our client is a leading global pharmaceutical company focused in research, development, and commercialization of innovative medicines, etc. They wanted to develop a solution which will generate insights on patients across the domains which includes prediction of the stage and the nature of the cancer. Also, build dashboards using Amazon Quicksight to serve as the visualization layer for ML models performance metrics.

Key Challenges

01

High regulatory compliances requirements with complex data

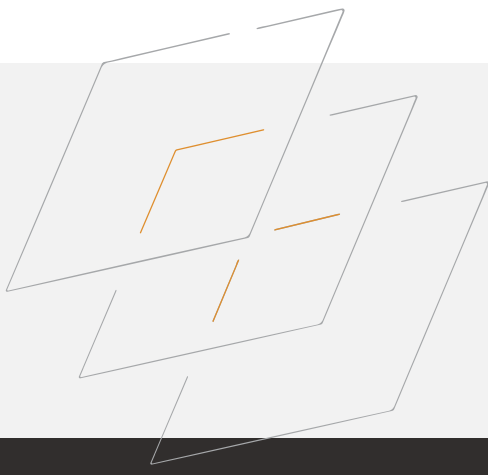
02

Need for domain knowledge to define features, build various templates and requirements for the outcomes.

Our Solution



- Developed multiple modeling solutions, each indication for a particular type of cancer.
 - Create samples out of the preprocessed data and then train the binary models, each classifying whether a patient is in a particular stage or not.
 - Build multiple binary models to benchmark our solution with the existing system from a vendor.
 - Funneled approach on making inference where the input would go from the sequence of binary models to get the predictions.
 - Auto ml packages to get the best algorithm for the problem and use XGBoost for all the models.
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- Used AWS Sagemaker provided XGBoost framework for training and inference.
 - Trained models, thresholds and the model performance metrics report are bundled as model.tar.gz by the Sagemaker Training Job and registered to the Sagemaker Model Registry in our Data Lake AWS account.
 - The model metrics for a particular model package group version is also visualized in Amazon Quicksight and the business users will get access to the same.
 - Evaluation step after the Training Job so that only if the trained models pass the predefined evaluation thresholds, then only they will be registered to the model registry.



Tech Stack

- / AWS Quicksight
- / AWS Sagemaker
- / AWS Redshift
- / AWS S3

Value Delivered



AWS services helped in developing ML models and dashboards for the insights generation and disease prediction solution which resulted in near to accurate predictions of diseases rendering better medications to the patients.

About Us

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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