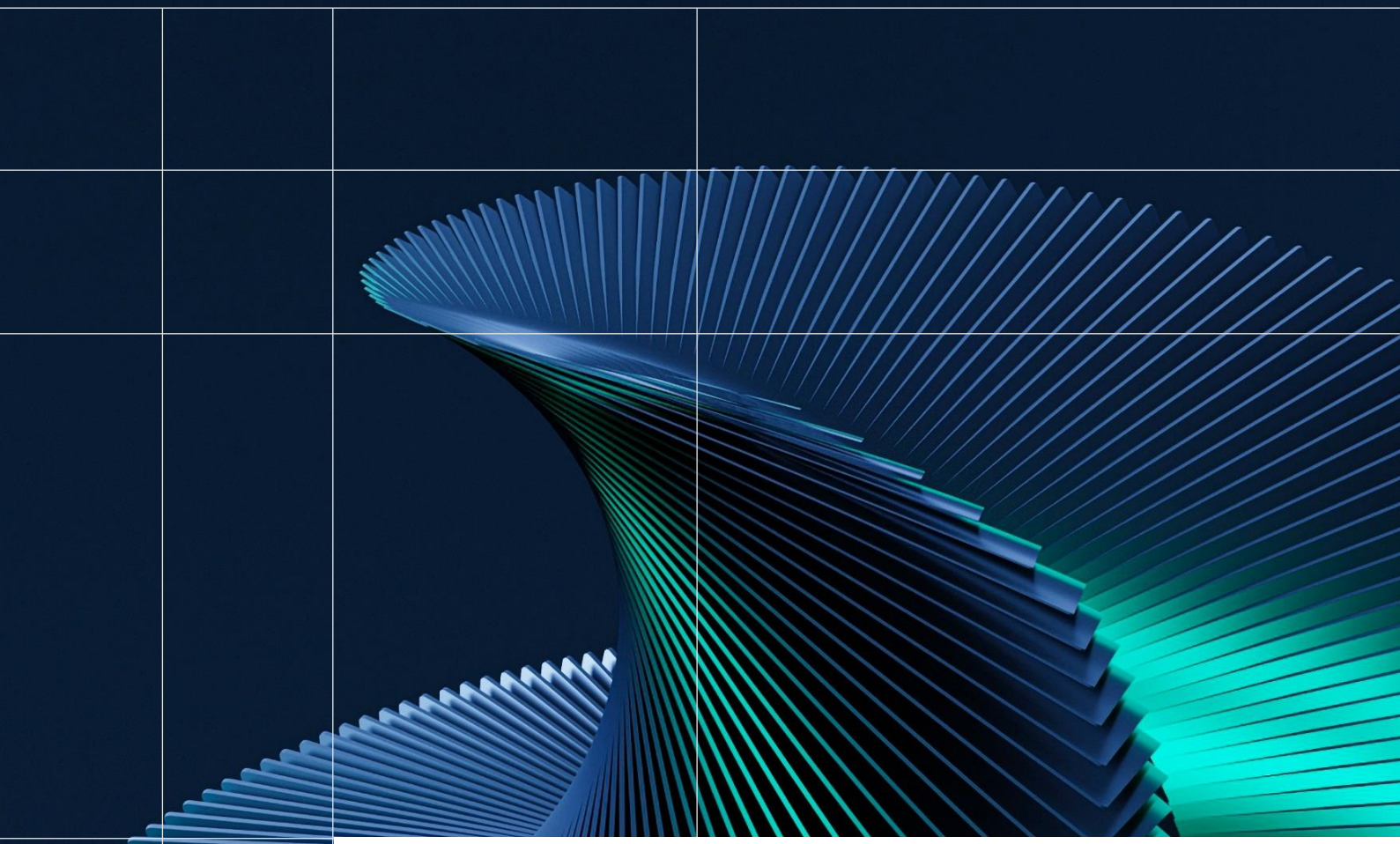
Tiger Analytics



Tiger Analytics Builds Strategic Data Lake for US based PetCare Company with AWS Native Services

Tiger Analytics partnered with the client to migrate their entire upstream and downstream of data pipelines and related platforms in-house. This in-house solution was developed to build a single environment to host the IoT device data, building a data lake which is used for generating insights and reports.

The Background

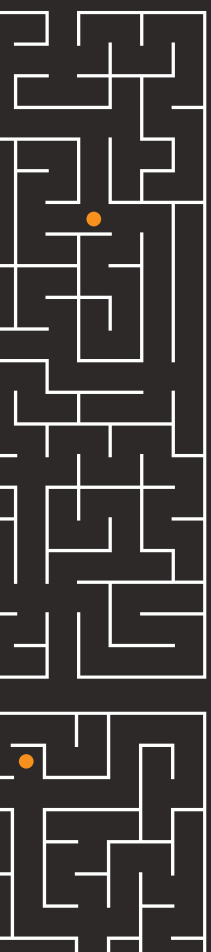
Our client is a US based PetCare company promotes responsible pet care, community involvement and the positive bond between people and their pets. The client produces and markets a wide range of brands that provide nutritious, high quality pet food to help keep cats and dogs healthy and happy. The project ask was to build a solution to:

/ Work on building a single environment referred to as Pet data lake(R&D Environment) to host data from the clients IoT device to ease availability of this data for the R&D team

/ Data being generated from IoT device was initially present on the respective product development vendor's cloud

/ This particular IoT device is designed to analyze and predict a spectrum of human and pet interactions with the device with the objective of identifying and treating health conditions proactively

/ We designed the Data Lake strategically to resolve challenges related to data accessibility while meeting the robust backend requirements essential for powering dashboards and supporting the UI website for the client's internal team



Key Challenges

/ Data retrieval from vendor website encountered difficulties due to query size limitations

/ Running scripts posed errors during heavy data loads

/ Incorporate multiple data pre-processing steps before adding data into the lake

/ Process was time-consuming and varied with the data volume

/ Meet the demands of real-time data streaming requirements

/ Incorporate cost optimisation processes to mitigate the time consumptions due to heavy data volumes

Our Solutions

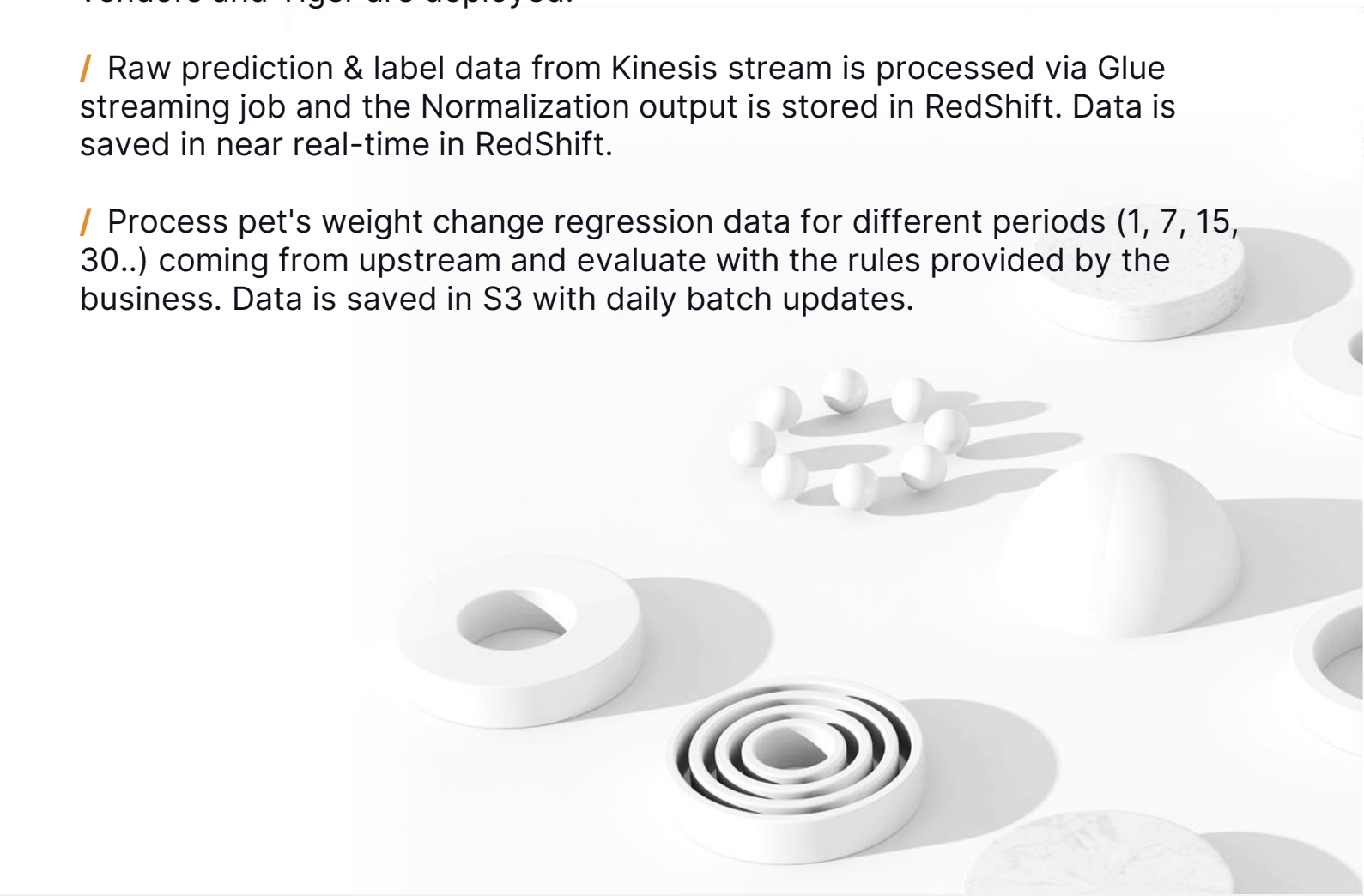
Tiger Analytics partnered with the client to build a comprehensive solution, leveraging AWS native services to migrate their upstream and downstream data.

/ Data from the device & PUI is stored in RedShift. Data is saved in near real-time in RedShift.

/ Model inferences are deployed in AWS Sagemaker. The model repository is maintained in Azure DevOps and stored in S3. All models from both other vendors and Tiger are deployed.

/ Raw prediction & label data from Kinesis stream is processed via Glue streaming job and the Normalization output is stored in RedShift. Data is saved in near real-time in RedShift.

/ Process pet's weight change regression data for different periods (1, 7, 15, 30..) coming from upstream and evaluate with the rules provided by the business. Data is saved in S3 with daily batch updates.



Tech Stack

/ AWS Cloud Platform: AWS Lambda

/ AWS Glue

/ AWS S3

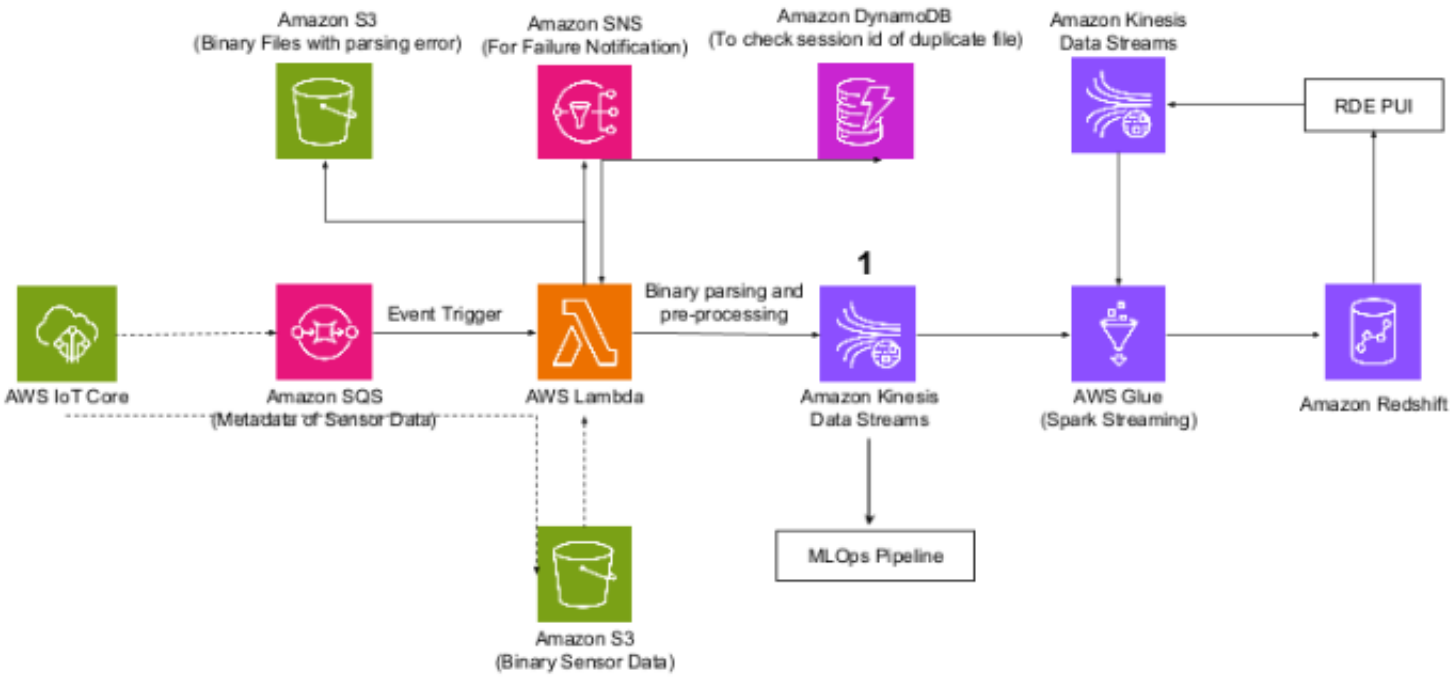
/ AWS Sagemaker

/ Kinesis Data Streams

/ AWS SNS

/ AWS RDS

Solution Architecture



Value Delivered

/ Tiger Team enabled client in setting up a unified platform thereby getting the data belonging to all the devices to be housed under R&D environment

/ Challenges related to data retrieval was addressed by strategically loading historical data and implementing real-time as well as batch data pipelines which effectively meets evolving business needs

/ While new IoT devices are being onboarded into the pipelines by the client, we ensure seamless integration, promptly resolving any issues to uphold the pipeline's efficiency

/ Currently, multiple teams actively leverage the data present in the Pet data lake through a web UI as well as dashboards, highlighting its ongoing relevance and adaptability across diverse functions

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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