How a medical insurance provider for cats and dogs became an AI-driven company

Trupanion streamlines insurance claims processes with the DataRobot Cloud machine learning platform

Founded in 2000, Trupanion is a Seattle-based company that provides all-inclusive medical insurance policies for pet owners. A challenge for insurance companies is the need to quickly process claims to determine whether a claim should be paid automatically. In the comparatively small world of medical insurance for cats and dogs, however, only about 1% of pet owners hold insurance policies. Most veterinarians expect pet owners to cover the full bill for their pets’ treatment, making the insurance claims process a manual and time-consuming effort. Without automation, the claims process requires a pet owner to scan a bill, submit the bill manually to the insurance provider, and wait a week or more for the claim to be received, reviewed, and reimbursed.

To streamline this process, Trupanion sought to build an accurate predictive data model that would help reduce the time and manual labor necessary to approve or deny insurance claims. Ordinarily, such a process would take an immense amount of data science expertise and time. Trupanion wanted to find a way to build a predictive model quickly that would lead to greater data insights and better decision-making that would ultimately lead to cost savings and increased revenue.

The decision to use DataRobot

To justify the use of an outside solution for developing a machine learning (ML) model, Trupanion had to see an immediate cost benefit. Trupanion identified DataRobot, an ML platform built on Amazon Web Services (AWS), as a solution that could easily ingest data and create trainable algorithms to predict outcomes.

“We’re very data-focused,” explains TJ Houk, Chief Data Officer for Trupanion. “We pull in data from a bunch of different sources and use all of it to create value for our company. We needed a machine learning platform to increase the value we were creating, and DataRobot fit the bill perfectly.”

DataRobot Cloud powered by AWS

- Automates the development and deployment of predictive models
- Speeds up model validation and optimization
- Provides the guardrails needed to improve model accuracy
- Generates diagnostic charts and documentation that can be easily downloaded and distributed to teams

Challenge

A leading medical insurance company for cats and dogs wanted to streamline the process of submitting and responding to claims, but lacked the resources needed to build predictive models that would help the company understand where it could optimize the process.

Solution

An automated solution for machine learning that greatly simplifies the process of building and deploying accurate predictive models that can recommend how to improve the insurance claims process.

Results

A large reduction in the time necessary to process insurance claims, improved efficiency for the insurance company’s data science team, and increased client satisfaction from pet owners.
DataRobot's platform implements the same advanced techniques used by skilled data scientists. The platform incorporates hundreds of open source machine learning algorithms, as well as the modeling blueprints needed to help optimize the model. DataRobot delivers the information and transparency that data scientists need in order to analyze why a certain model performs the way it does, and the reporting needed to explain the model to company leaders and external regulators.

**DataRobot and AWS help you build and deploy highly accurate predictive models**

DataRobot created a scalable, elastic, highly-available machine learning platform that syncs seamlessly with a customer's AWS environment. Built and hosted on AWS, DataRobot leverages several key services including Amazon Simple Storage Service (Amazon S3), Amazon Compute Cloud (Amazon EC2), Amazon EC2 Container Registry (Amazon ECR), and AWS Elastic Load Balancing. DataRobot can be deployed as a SaaS (software-as-a-service) solution, on-premises, or in a customer's AWS VPC (virtual private cloud).

The result is a secure, scalable, flexible machine learning solution that runs seamlessly on AWS and can be deployed in a fraction of the time it would have taken using traditional machine learning methods. DataRobot allows organizations of any size to rapidly get up and running with automated machine learning by making it available where they need it, when they need it, and at the scale they need to make highly accurate predictions that will have a measurable return on investment.
The benefits for Trupanion

Trupanion originally created Trupanion Express, a software solution for managing insurance claims for cats and dogs. Using DataRobot and AWS, Trupanion was able to build highly accurate predictive models faster that significantly shortened time-to-insight.

With DataRobot and AWS, the claims process has been truly optimized for both claims processors and for policy owners, who now know whether a claim will be approved before leaving the veterinarian’s office. This dramatically changes the pet owner’s experience, as the owner is only required to pay their portion of an approved bill, rather than paying the entire amount out of pocket and waiting for a reimbursement.

“DataRobot allowed us to cut the time it takes to build a model by more than 10X,” notes Houk. “We’ve been able to build churn models that enable us to better quantify how different variables affect customer churn. Overall, we’re now able to build models faster that help us solve problems when they occur, and that allows our team members to focus on improving business performance instead of wrangling data.”

DataRobot has helped Trupanion:

• Reduce the cost of performing data science projects.
• Decrease resource requirements for the internal data science team.
• Focus employees’ time on process improvement and model development instead of manual tasks.
• Bring the time necessary to process a claim from several minutes of manual work to as little as 20 seconds.
• Spin up new data science projects quickly.
• Improve end processes.

“With DataRobot and AWS, we were rolling within days and producing meaningful results within weeks.”

TJ Houk, Chief Data Officer
Trupanion

Get started with DataRobot

DataRobot offers an automated machine learning platform for data scientists and business analysts of all skill levels to build and deploy accurate predictive models in a fraction of the time. DataRobot is an AWS Machine Learning Competency Partner. Learn more about DataRobot Cloud for AWS.