



## Overview

Rinalogy is a startup company that offers unique solutions that quickly find complete and accurate information in data sources. In addition to creating and selling the company's enterprise search and classification technologies, Rinalogy engages in custom software development projects for select clients, using AI powered data discovery, analysis and prediction.

## The Client

[Team Harbour, Inc.](#) is a technology company that specializes in web and mobile development. They engaged with Rinalogy to harness our expertise in machine learning, classification and enterprise search.

## The Project

The project objective was to develop an application for automated pill recognition and identification, including developing an algorithm for drug identification score. In order to build quality recognition and identification, models should be built using Big Data, a large number of pill samples with their pictures. Data sources included user generated photos as well as public drug databases such as drugs.com. Processing pictures included four key parameters: marking, light, color and shape. The neural network had to learn from the data based on these inputs.

## The Technical Challenge

With development teams spanning across two continents, it was important to have access to secure, reliable and scalable computing capacity.

In the early stages of development, Rinalogy created a proof of concept of the application, applying new methods to find the accurate results from large data sets.

As the product development evolved, the company had the need to access development resources from multiple locations, host and store large databases, and high-performance processing to build and train models.

## The Solution

Rinalogy used AWS EC2 instances for web scale cloud computing that benefitted our developers and provided high reliability for our client by locating servers in different availability zones. We ran large-scale Big Data Analytics workloads and accelerated data processing.

AWS offers operational advantages such as the ability to spin up services for development, staging and test environments in a few minutes, freeing our developers to focus on delivering high quality solutions. As a business, we appreciate the flexibility of not having to invest in upfront hardware, and the ability to modify technology environments as needed.

The company hosted drug data, and drug image sample data, among others, using EC2 instances as well as various prototypes of our solution.

In addition, Rinalogy relied on CDN CloudFront to deliver dynamic web content to provide better user experience, GPU instances for model training and S3 storage services to store Big Data for testing.

Amazon's platform provides lifecycle services that support agile development of complex applications and systems in a practical and operationally simple way. The company has realized cost efficiencies which enabled us to meet strategic objectives and accelerate product delivery.