OCI CASE STUDY:
Agricultural Biotechnology Corporation
Image Analysis & Machine Learning

RELEVANT BACKGROUND

Our client is a leading agricultural biotechnology company that delivers crop protection solutions to a global population of farmers.

THE CHALLENGE

As the agriculture industry struggles to support a rapidly growing population, crop disease reduces the production and quality of food and biofuel crops. These losses are disastrous to the economy and dramatically threaten the global population's access to nutrition.

Without deep subject matter expertise, crop disease may be difficult to diagnose. Simply describing a crop's symptoms to a plant pathologist over the phone can be very difficult. Without a physical examination of the specimen, it is nearly impossible for our client to recommend treatment options to their customers affected by crop disease.

Our client, dedicated to providing farmers with the broadest choice of products and services that address crop disease, turned to us to develop a solution that would streamline the diagnostic process.

> We supported our client in architecting and developing a mobile application, which enables farmers to photograph diseased crops and receive accurate diagnostics in near real-time.

THE SOLUTION

We supported our client in architecting and developing a mobile application, which enables farmers to photograph diseased crops and receive accurate diagnostics in near real-time. The diagnostic process employs advanced image analytics, powered by machine learning techniques.

DATA ENGINEERING

A reusable platform enables data and model management, along with DevOps support for multi-cloud infrastructure to assist data scientists in performing data cleansing, learning, and service deployment of solutions, utilizing AI analytics techniques at scale.

ADVANCED IMAGE ANALYTICS

The mobile application utilizes a model produced through machine learning, which effectively analyzes a plant's color, size, and texture to classify individual images.

MACHINE LEARNING

Through machine learning techniques, the mobile application is capable of diagnosing crop disease without being explicitly programmed to do so.

OCI'S KEY CONTRIBUTIONS

- Developed and refined the learning architectures to optimize the classification of images

- Delivered an engineering team that collaborates with data scientists to develop requirements, and implemented an AI Analytics platform to support data scientists in their day-to-day tasks

- Provided training, testing, and evaluation of multiple models at scale using CloudML on Google Cloud Platform

ABOUT OCI

- 24+ years' experience building high-performance, real-time, mission-critical systems

- Results-driven approach helps you stay ahead of your competition

- Experts in aligning your data with business goals, combining engineering with data science to drive innovation

- Tested and repeatable processes that shorten time-to-market

We build high-performance, real-time, mission-critical systems, and integrated application and software solutions that are open, scalable, reusable, interoperable, and affordable.

Please contact us today to discuss how we can reduce your costs and improve performance.