

Finding the Cure (and Much More) in Your Data: Machine Learning for R&D and Clinical Trials

The data revolution in the pharmaceutical and biopharmaceutical industries has given way to a new order for R&D and clinical trials. Today, it is expected that firms will employ big data analytics and artificial intelligence to improve processes for drug discovery and approval.

Firms that are not there yet are playing catch up. The time is now to move forward with technologies such as machine learning (ML) – and **SpringML** is here to help you move forward quickly.

Premier Google Cloud Platform partner

SpringML is a premier Google Cloud Platform partner with specializations in ML and Big Data analytics. We can help you define your AI strategy and bring it to fruition.

Few strategies for extracting value from pharma and biopharma data can bear fruit without first standardizing data on a single platform. This is why **SpringML** helps you migrate your data to the cloud on Google BigQuery. The result is a single source of truth that all authorized researchers and users can access on demand.

From there, we help you quickly build ML solutions in the areas of images, text, video, and natural language processing (NLP) using TensorFlow and APIs from Google. Pulling in data from critical pipelines, we then apply ML algorithms that help you identify patterns in your data, predict what's coming next, and determine how to respond effectively.



SpringML helps you across a wide range of areas specific to R&D and clinical trials. Here are some examples.

Drug Discovery

With all the data you have at your disposal, you may already have a cure available that you may have overlooked. SpringML can help you identify patterns in your data to make new discoveries that can drive new therapies and innovations. We can also help you identify biomarkers to improve diagnoses.



Product Extensions and New Indications

It's not unusual for firms to have trial data that shows efficacy in therapeutic or diagnostic categories that were not within focus of the original trial. This data, in other words, may be buried in the noise. SpringML helps you find the signal in the noise, enabling you to identify potential product extensions that target other patient populations or other disease categories.



Predictive Quality Assurance

During the R&D phase, your firm needs to ensure a steady and high-quality stream of chemicals, solvents, biologicals, and other raw materials. The goal is to maintain the integrity of experiments, ensure safety for tests with animals, and establish a sound repeatable process going forward into clinical trials. During clinical trials – where the supply chain flows from the pharmaceutical firm to live patients – the stakes are even higher. Diagnosing outliers and tiering raw material quality based on patterns can help streamline your QA/QC process and focus teams on the issues that really matter. SpringML uses ML to help you predict supply chain issues that might otherwise cost you millions. With the ability to take corrective action ahead of time, you can more effectively ensure quality, prevent downtime, and avoid disasters.



Predictive Clinical Trials

While there is no substitute for real-world trials, SpringML can help you model trials ahead of time. The idea is to yield preliminary findings so that you can structure the best trial possible moving forward. We can also help you optimize the ideal patient profile so that you select the most appropriate patient populations for your trial, incorporate genomic data, test hypotheses, and run simulations during the trial using actual data to predict outcomes and drive better decisions.



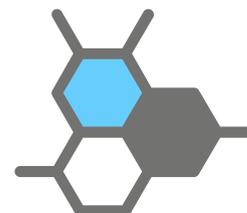
Predictive Maintenance

When critical laboratory equipment breaks down, it can bring R&D to a standstill. You need it up and running and fully calibrated at all times. With help from **SpringML**, you can monitor and analyze machine data in real time and predict equipment failure before stoppages occur. With the proper analysis, you can even optimize the lifetime of parts and replace them only when they truly need to be replaced – thus maximizing your ROI overtime.



Pipeline Portfolio Optimization

The development pipeline is the lifeblood of the pharma and biopharma firm – which makes optimizing that pipeline a critical success factor. **SpringML** can help you apply ML techniques to your development decisions so that you can increase your chances of success from the get go. Then, throughout the development and trials process, we can help you better evaluate milestones and trial outcomes across the portfolio to make better decisions on where to continue investing.



Tap into the value of the data you already have.

If seizing the advantage in pharma and biopharma R&D and clinical trials is part of your objective, then tapping the value of your data is a must. Let **SpringML** help with proven experience and expertise – both in the life sciences industry and in deep learning technology. The data, you already have. Now it's time to reap its value.

Learn More

To get started or learn how you can get more value from data with ML technology, visit us at:

 www.springml.com/healthcare

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