

CASE STUDY

RapidMiner and Tableau:

Data Science Improves Quality of Care for Critically Ill Patients



Customer Profile

Privately held Healthcare Company

Location

United States

Industry

Healthcare

“The fusion of these two technologies allows us to go from anecdotal approach to operational decisions to a data-supported approach that enables us to create more meaningful interventions and better patient care moving forward.”

The Challenge

An analytics division in a privately held healthcare company wanted to use their vast amount of patient treatment data to help drive better care and outcomes. They monitored each patient’s progression over their entire course of treatment, storing vast amounts of data in many different formats and across many facilities. This led to a complex dataset, which the company needed to quickly cleanse, simplify and draw fast, actionable treatment conclusions to share with doctors. Most data science solutions the company was looking at required multiple tools and were very time

consuming to prep data, create models and operationalize results. Other solutions enabled them to export data to spreadsheets, which was deemed too cumbersome and difficult to make targeted treatment determinations. The company needed a data science solution to streamline the whole analytics process: from prepping their complex data to creating predictive models that would determine the most effective treatment options for each patient, and then share insights with doctors through Tableau dashboards.

The Solution

RapidMiner’s unified platform was chosen for its easy-to-use drag and drop visual programming and ability to integrate with a 3rd party software like Tableau. This gave them the robust data prep and predictive modeling functionality of RapidMiner along with the ability to operationalize results directly into the user-friendly, interactive dashboards of Tableau.

RapidMiner allowed the analytics team to quickly build reusable workflows that loaded spreadsheets and accessed patient care data from SQL databases and other data sources, mashing them up into one

cohesive dataset. Once the data was extracted, they designed a clustering model in RapidMiner to identify the factors common to a subset of data. This model was used to predict patients that would require advanced levels of treatment and care which was shared with doctors through Tableau.

By speeding-up the data prep process, analysts had more time to prove out and adjust their predictive models. Using RapidMiner plus Tableau, they were able to generate new features on the fly, get immediate feedback from doctors and then update the models in real-time based on that feedback.