Classifying Customer Service Requests

Summary:

With an SVM classifier, I was able to predict the “level” of inbound customer service requests with 95% accuracy. The classifier uses features that all describe the customer attributes rather than taking data from the actual inbound service request. It will be used to automate a triaging process that consumes multiple man-hours daily in addition to the context switching that slows all other tasks.

Background:

The Customer Service / Sales team at Atlassian relies on a scoring system to measure individual performance from it’s team members. Generally, each member is expected to score a minimum number of points per week. The current scoring process is a manual one, where every hour or so throughout the day, a team member must sort through all new requests and assign them a score. About X INSERT HERE requests arrive hourly during the workday, and it takes around 20 seconds to score each request. In total, this amounts to Y HOURS of work time per day. The breakdown of requests is about 80% Level 1, 18% Level 2, and 2% Level 3. The goal of this classifier is to automate the triaging process so that representatives can focus on Customers rather than performance management.

Data:

I had the whole of Atlassian’s data warehouse to play with when building my classifier, but ended up limiting myself to customer-product relationships and data specific to each email. Data that falls under customer-product relationships involves licenses currently or recently owned by a customer, products currently being evaluated by a customer, and product sales (recent and all-time) to a certain customer. The data is segmented into the following schemas; each in it’s own csv.

Request information: This csv contains basic information about a request, including time information, customer email information, the email subject,

As a note, licenses are distinguished between behind the firewall (BTF) licenses and hosted (SASS) licenses. This is due to the fact that there are very different licensing and pricing plans between these two offerings.