For each review, the rating that review gave to the business was compared to the actual average rating of the business. The square of the difference for each review was combined for all reviews of a particular user to produce an overall standard deviation for that user’s ratings compared to the average. This gives each user a reliability score that we can use to rate their accuracy as a reviewer, and check for statistical relationships with the other data available about the user. The mean reliability of users was 1.15 with a standard deviation of .72

A linear regression model was produced to find the relationship between user reliability and the other fields known about the user. The most significant predictors of reliability that were found were the number of years the user was awarded the elite ranking, and the average rating of all of that user’s reviews.

Other less significant predictors included the total number of reviews for that user, the date that they started using Yelp, and the number of fans that the user has.

The reviews used for these calculations were the ones present in the Yelp dataset, but these are only the reviews that are “recommended” by Yelp and are already selected for their usefulness and representativeness of the Yelp community. Another metric to use could be the fraction of the user’s total reviews that were recommended by Yelp.