The only restriction on an combining iterator is that the combiner developer should not assume that all values for a given key have been seen, since new mutations can be inserted at any time.This precludes using the total number of values in the aggregation such as when calculating an average, for example.

9.2.1 Feature Vectors

An interesting use of combining iterators within an Accumulo table is to store feature vectors for use in machine learning algorithms. For example, many algorithms such as k-means clustering, support vector machines, anomaly detection, etc. use the concept of a feature vector and the calculation of distance metrics to learn a particular model. The columns in an Accumulo table can be used to efficiently store sparse features and their weights to be incrementally updated via the use of an combining iterator.