

Report 3

Samuel Spillane

March 27, 2020

I tested my naive Bayes algorithm on the dataset with the positions and transformations. This testing received worse results than just the positions. It received less than 15% accuracy, compared to the earlier less than 30%. To me, this indicates that the naive Bayes algorithm may be either a bad fit or incorrectly implemented. Naive-Bayes should perform better given more class identifying information. I believe this may be due to the floating-point numbers being used. The numbers are all over the place in terms of decimals. This can be fixed by rounding the numbers. However, I believe the fundamental problem is the lack of duplicate class labels. There is only one example provided per label. Each of those labels has all of the bones for that pose, which I believe may harming the accuracy of the algorithm. More animation work will have to be done to create poses that also resemble the labeled poses. I believe that this similar data will have to be transformed by some similarity metric. I am going to apply K-means-clustering to the same datasets; getting a set of class labels according to how similar the bone positions are. The result of this clustering is a new dataset with fewer but more useful data for the naive-Bayes algorithm.