Results of the Other Approaches

Linear Regression + TF-IDF

Default hyper-parameters; *Run out of memory*

max_features = 10000; **Train RMSE** = 1.1347281211956497; **Validation RMSE** = 1.8389561330500093
max_features = 5000; **Train RMSE** = 1.2956523275704834 ; **Validation RMSE** = 1.5466440697622337

max_df = 0.95; *Run out of memory*
max_df = 0.9; *Run out of memory*

XGBoost Regression + TF-IDF

Default hyper-parameters; **Train RMSE** = 0.12979704532547504 ; **Validation RMSE** = 0.17105307340168932

Max_features = 20000, n_estimators = 100; *Run out of memory*
Max_features = 20000, n_estimators = 10; *Run out of memory*

Max_features = 5000, n_estimators = 1000; **Train RMSE** = 0.11661138137670032 ; **Validation RMSE** = 0.1742420504539488
Max_features = 20000, n_estimators = 1000; **Train RMSE** = 0.13457613062886667 ; **Validation RMSE** = 0.17643779044449706
Max_features = 5000, n_estimators = 1000, max_depth = 7; **Train RMSE** = 0.020441754928432; **Validation RMSE** = 0.133622125870313

Tensorflow Multiple Dense Layers + TF-IDF

max_features = 10000; epochs = 50; batch-size = 32; **Train RMSE** = 1.5493641689061433; **Validation RMSE** = 1.528584195931552
max_features = 5000; epochs = 20; batch-size = 32; **Train RMSE** = 1.4572690245847888; **Validation RMSE** = 1.4345345294274743

Linear Regression + Tensorflow Sequence Model + Count Vectorizer

max_features = 20000, review_length = no fixed length, epochs = 5, batch-size = 32; Run out of memory
max_features = 20000, review_length = 150, epochs = 5, batch-size = 32; Run out of memory
max_features = 20000, review_length = 100, epochs = 5, batch-size = 32; Run out of memory
max_features = 20000, review_length = 50, epochs = 5, batch-size = 32; Run out of memory
max_features = 15000, review_length = 150, epochs = 5, batch-size = 32; Run out of memory
max_features = 15000, review_length = 100, epochs = 5, batch-size = 32; Run out of memory
max_features = 15000, review_length = 50, epochs = 5, batch-size = 32; Run out of memory