Naive Bayes Analysis of Amazon Reviews

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Dataset

Other researchers scraped 35 million Amazon reviews from an 18 year period

Has rating, title, and review text

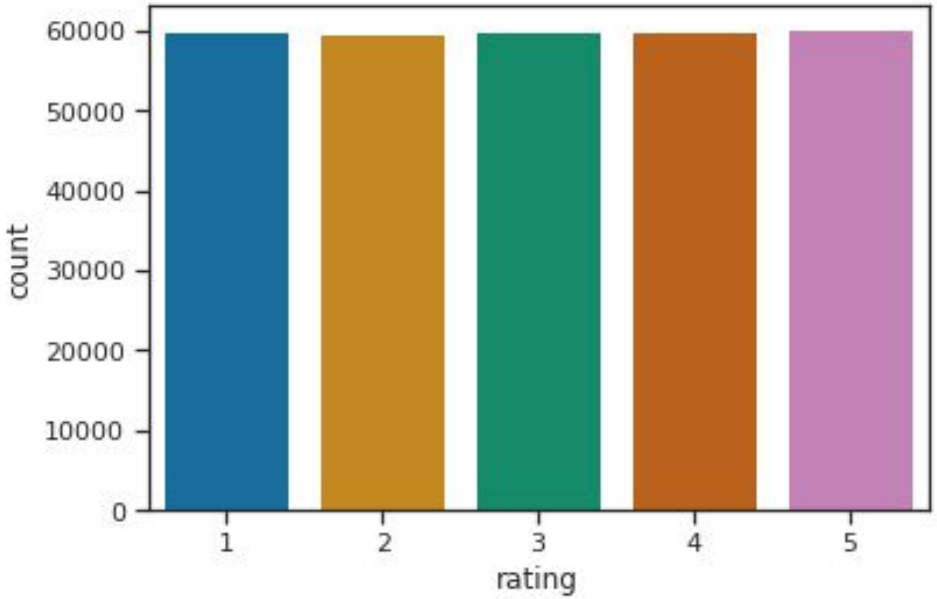
Dataset randomly sampled into a CSV: 3 million training, 650,000 testing

Even distribution of ratings

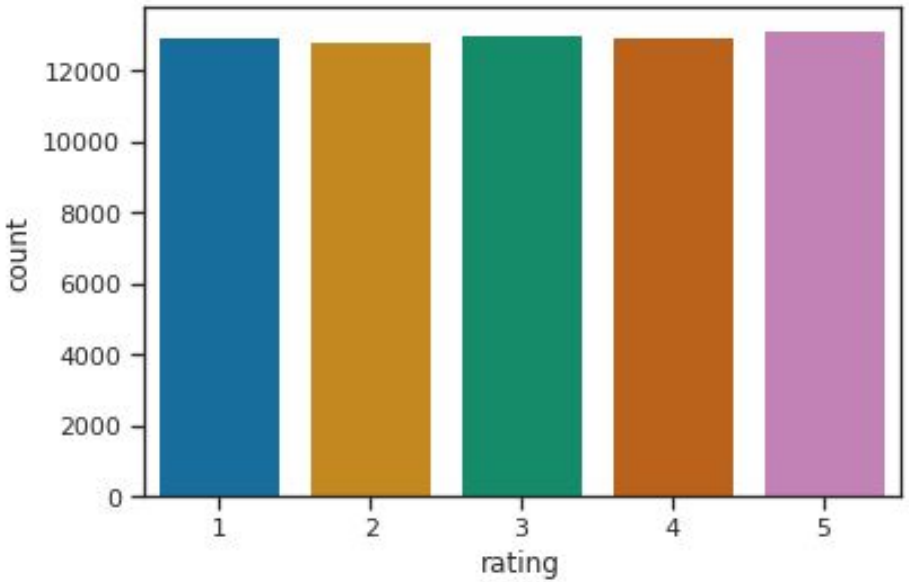
We reduced that dataset by to 10% (300,000 training, 65,000 testing)

Dataset

Training Data

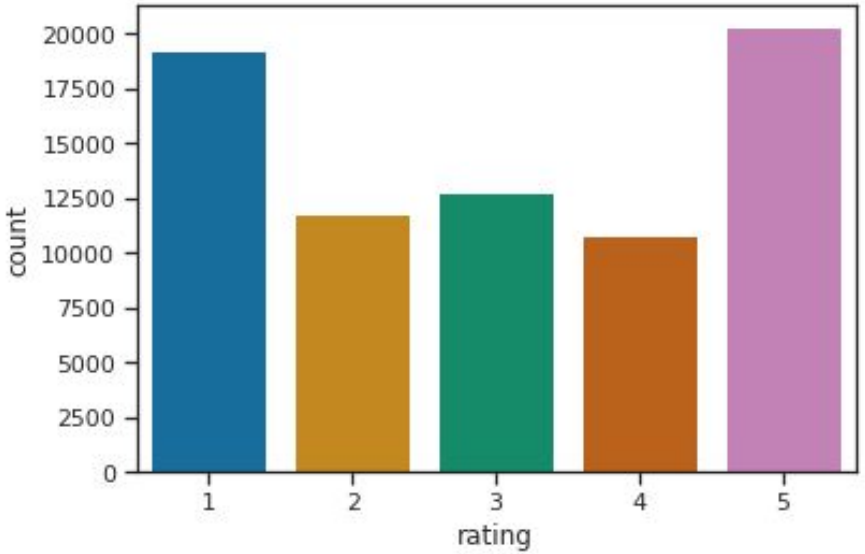


Test data



Bernoulli Naive Bayes

Bernoulli	Precision	Recall	F1-Score	Support
1	0.52	0.66	0.58	15075
2	0.41	0.33	0.37	14852
3	0.40	0.34	0.37	14789
4	0.43	0.30	0.35	15215
5	0.50	0.67	0.57	15068



Multinomial Naive Bayes

Multinomial	Precision	Recall	F1-Score	Support
1	0.53	0.63	0.57	15075
2	0.40	0.37	0.39	14852
3	0.38	0.35	0.36	14789
4	0.41	0.34	0.37	15215
5	0.55	0.60	0.58	15068