CSE586 IR - HW 2

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Spam Filter Multinomial Naive Bayes

Not: We, actually, have not more than one class. We do have only one class. It is whether ***SPAM*** or not. So I could not figure out how can we apply ***Macro-Micro Averaging***.

Without Smoothing	is actually spam: Yes	İs actually spam: No
İs reported spam: Yes	228	37
İs reported spam: No	12	203

With Smoothing (Laplace smoothing alfa=1)	is actually spam: Yes	İs actually spam: No
İs reported spam: Yes	224	28
İs reported spam: No	16	212

	is actually spam: Yes	İs actually spam: No
İs reported spam: Yes	TP	FP
İs reported spam: No	FN	TN

Without Smoothing

Precision P = tp/(tp+fp) = 228/(228+37) = 0.86

Recall R = tp/(tp+fn) = 228/(228+12) = 0.95

F-Measure = 2PR/(P+R) = 2*0.86*0.95/(0.86+0.95) = 0.903

With Smoothing

Precision P = tp/(tp+fp) = 224/(224+28) = 0.89

Recall R = tp/(tp+fn) = 224/(224+16) = 0.93

F-Measure = 2PR/(P+R) = 2*0.89*0.93/(0.89+0.93) = 0.909