

CS594 – Advanced Machine Learning

Report – Project 1

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Answer 1)

- a) Todo
- b) Todo
- c) The max objective value obtained = 200.185149689205

Answer 2)

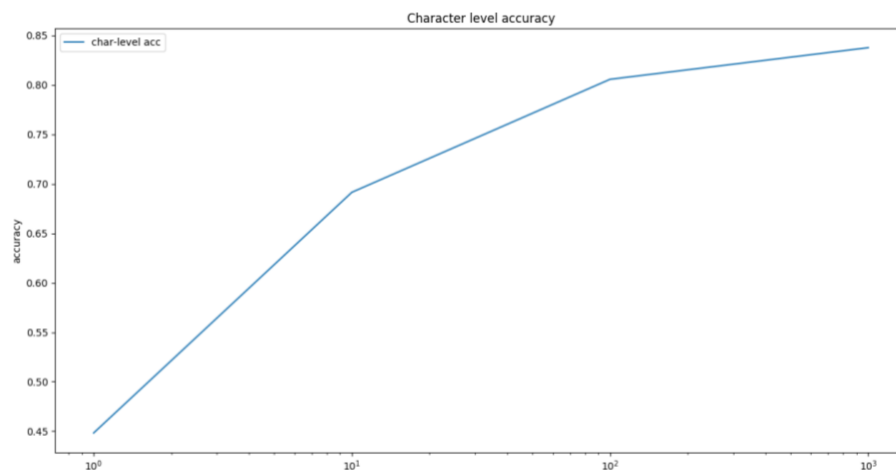
- a) $\frac{1}{n} \sum_{i=1}^n \log p(y^i | X^i) = -31.28843743965$
- b) Optimal Objective value = 3701.1579986480165

Some performance stats: Gradient check in 8.6 sec

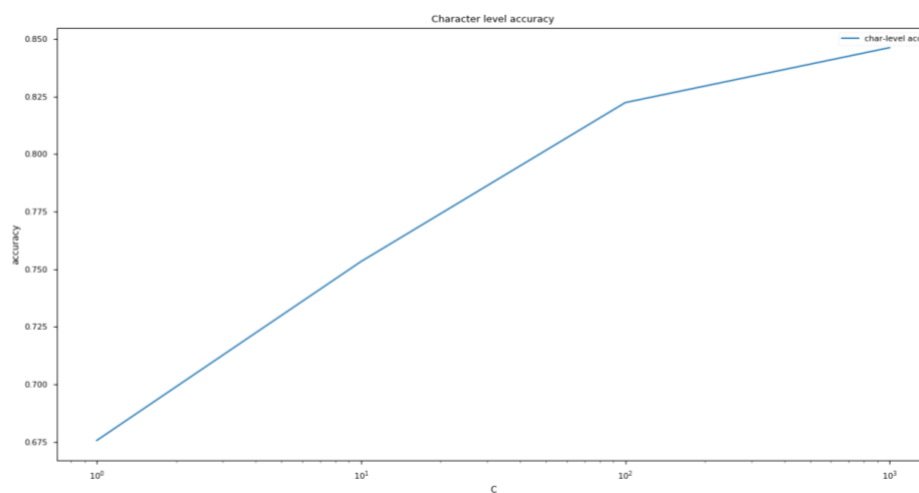
Test accuracies: Word wise = 47.25%, Char wise = 83.75%

Answer 3)

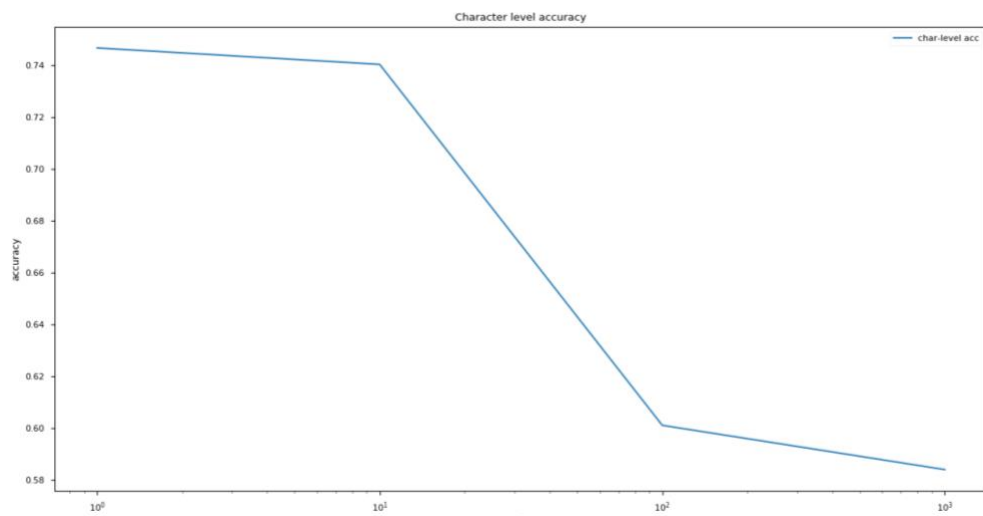
A1) CRF Letter-wise accuracy



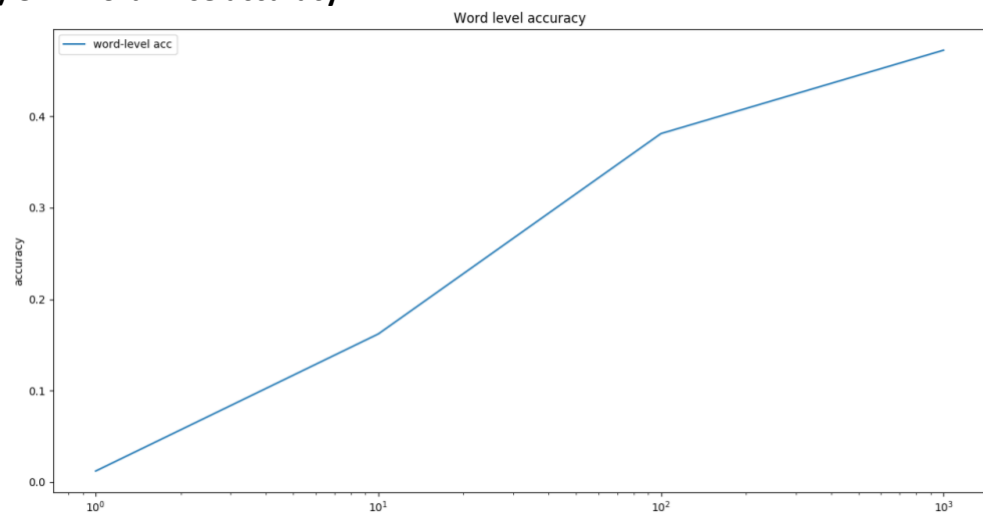
A2) SVM-HMM Letter-wise accuracy



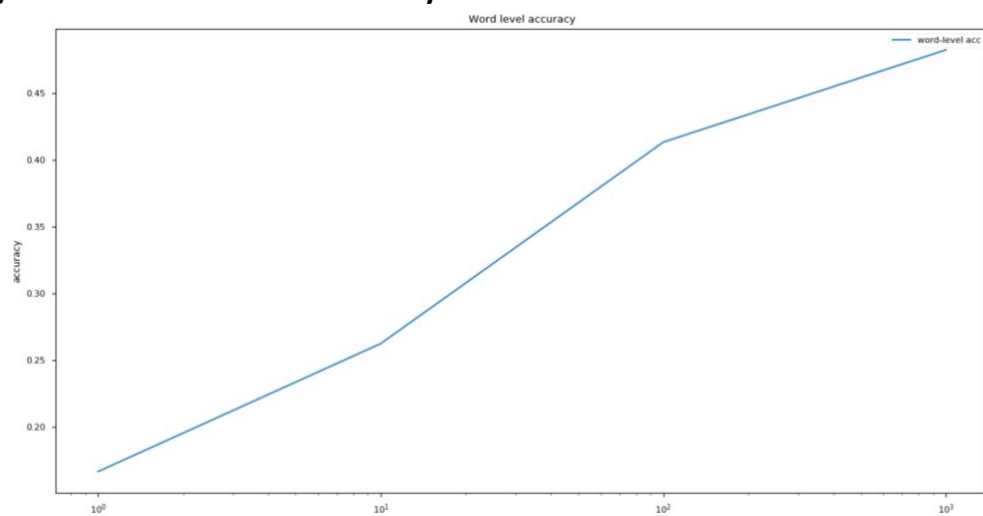
A3) SVM-MC (LibLinear) Letter-wise accuracy



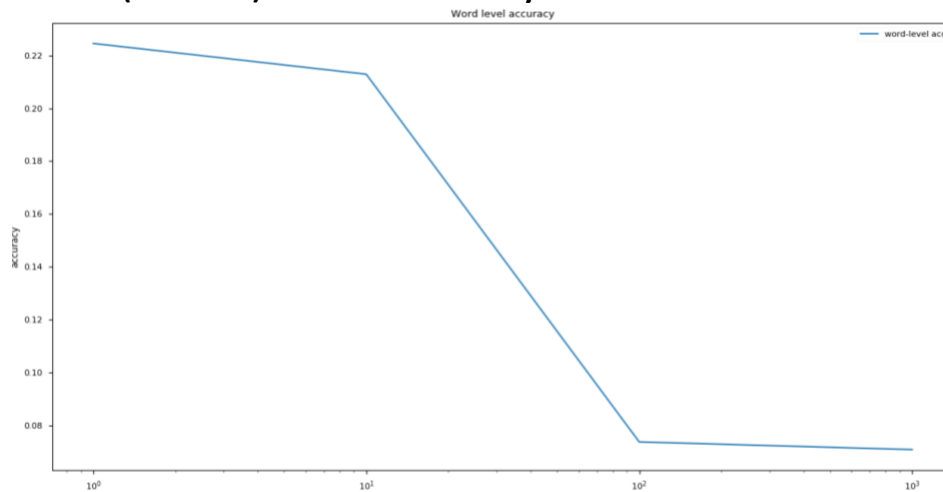
B1) CRF Word-wise accuracy



B2) SVM-HMM Word-wise accuracy



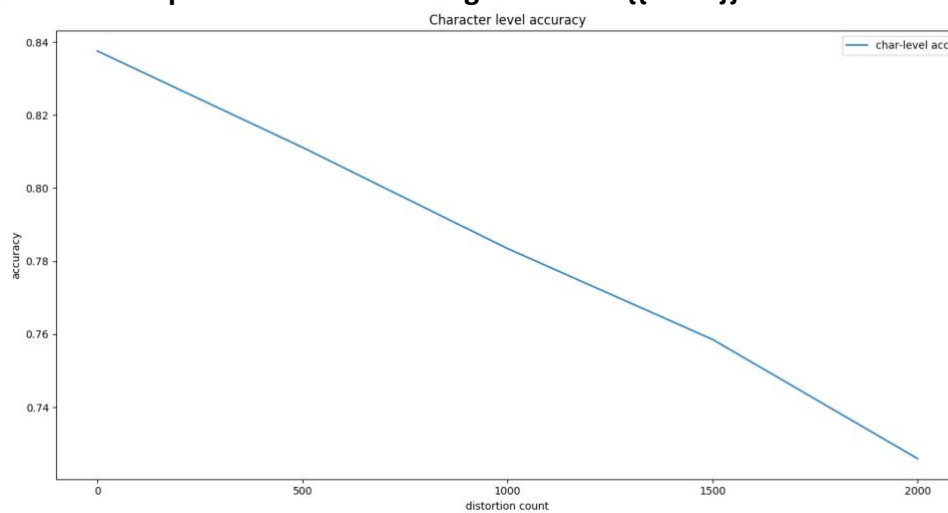
B3) SVM-MC (LibLinear) Word-wise accuracy



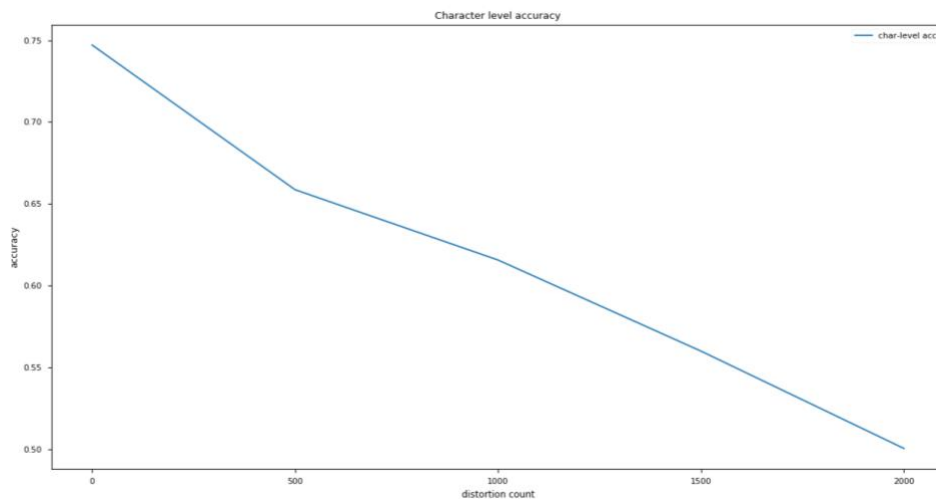
Todo: Observations for both 3a and 3b

Answer 4)

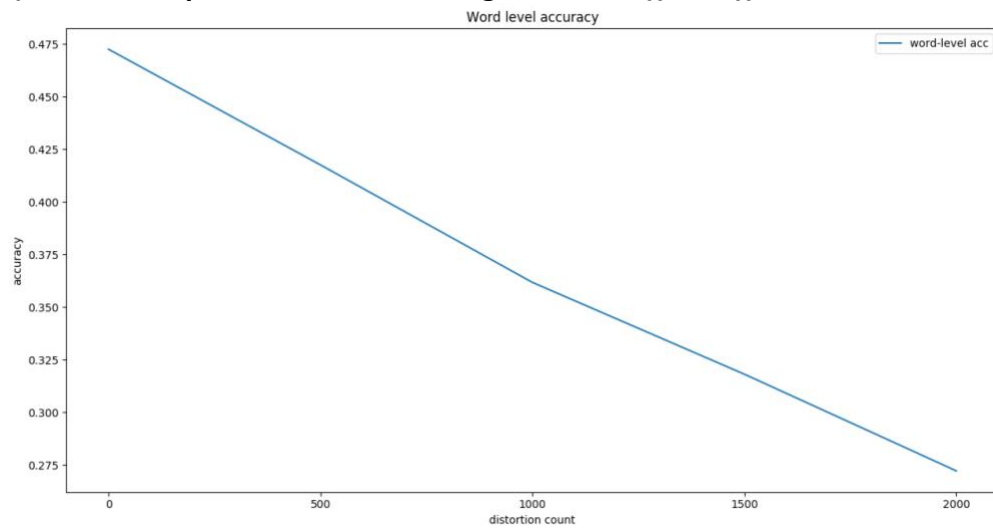
A1) Letter-wise prediction of Test using CRF at C = {{Fill in}}



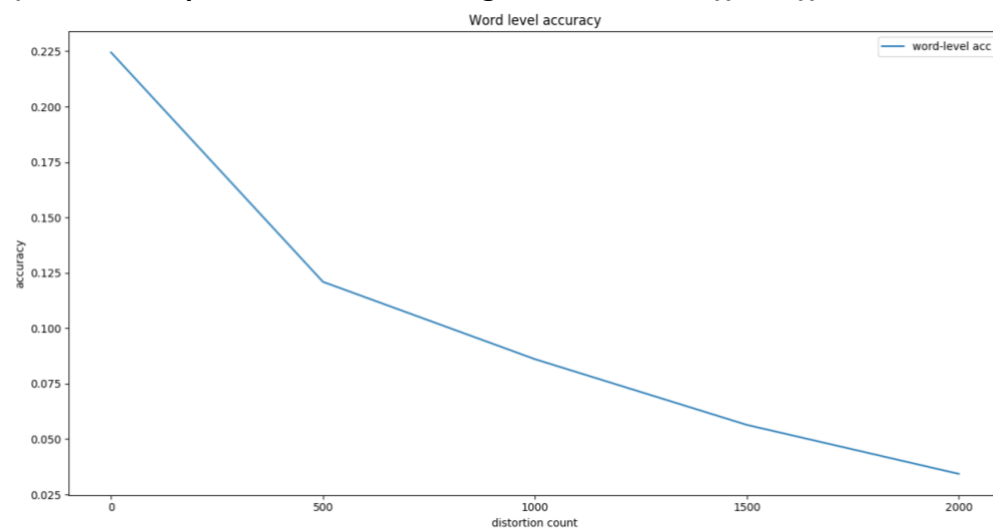
A2) Letter-wise prediction of Test using SVM-MC at C = {{fill in}}



B1) Word-wise prediction of Test using CRF at C = {{Fill in}}



B2) Word-wise prediction of Test using SVM-MC at C = {{fill in}}



Todo: Observations for both 4a and 4b