

INSTITUTO SUPERIOR TÉCNICO
IST-2024 - DEEP LEARNING

Report - Deep Learning - HW1

Students:
BRUNO Elie
GAUGES Maira

Professor:
FIGUEIREDO Mario

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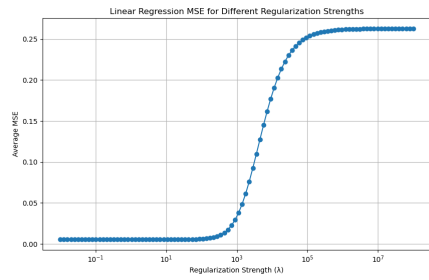
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1 Question I

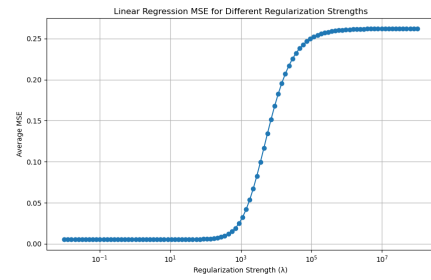
2 Question II

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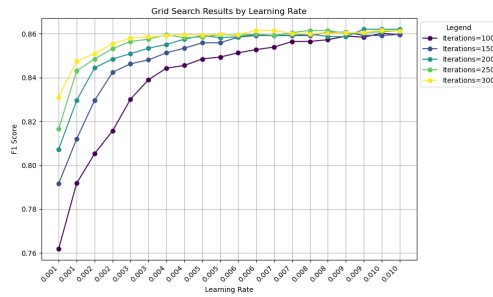


(a) Validation Set

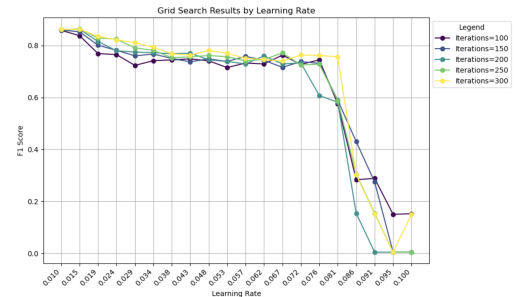


(b) 5-Fold Cross Validation

Figure 1: Graphs showing best lambda's using validation set or 5-fold cross validation

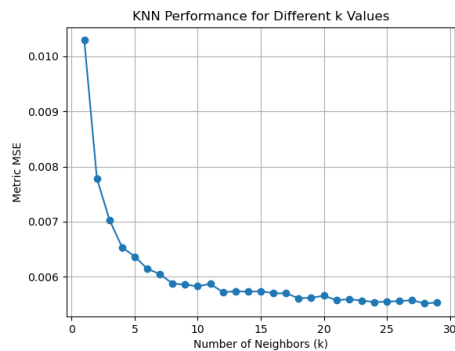


(a) lr from 0.001 to 0.01

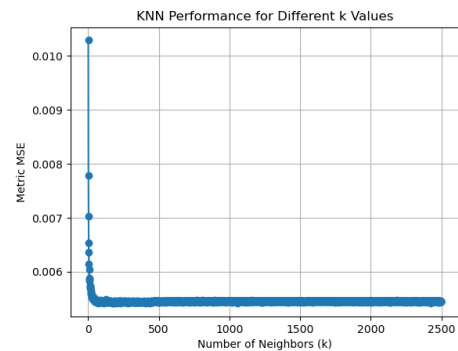


(b) lr from 0.01 to 0.1

Figure 2: Graphs clearly showing that the best learning rate are between 0.01 and 0.015 with 300 hundred iterations



(a) K from 1 to 30



(b) K from 1 to 2500

Figure 3: Graphs clearly showing that as K increases the MSE tends to an asymptotic value when center_locating

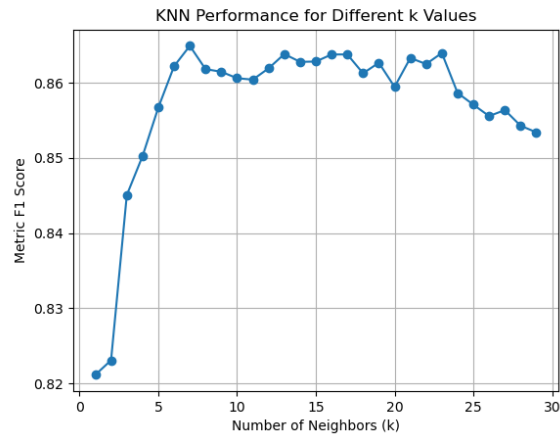


Figure 4: Graph showing the best K value for the KNN algorithm breed_identifying