Lab Two

MSDS Summer 2021

Note: Submit code via GitHub Classroom using Markdown Cells to **clearly** indicate which code answers which question and to answer short answer questions.

1. Implement and train a Feed Forward NN with the previous dataset, but use an embedding layer to include categorical variables.

2. Now add try adding dropout to different layers. See how different probabilities affect results.

3. Fix an architecture and note the difference in training between using batch norm and not using batch norm (don't use dropout!)

4. Do one of the following (if you have some experience with deep learning, do part b):

(a.) Use any and all trips/tricks you've learned and achieve the best performance you can on a validation set consisting of 20% of the data. Suggestion: Team up with some classmates, fix a train/valid/test split and compare results!

(b.) Of the following techniques to improve performance which has the biggest impact? How can you give evidence of this?

- Dropout
- Batch Normalization
- Weight decay