Deep Learning HW1 report

0416033 黃品任

1 Self designed model

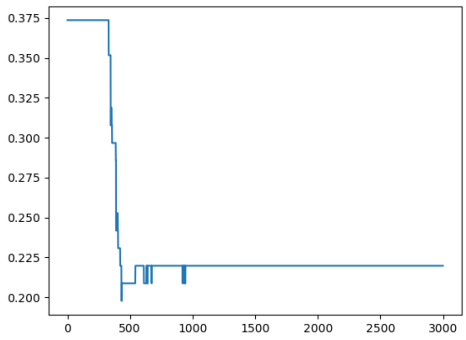
Layers: [6, 6, 1]

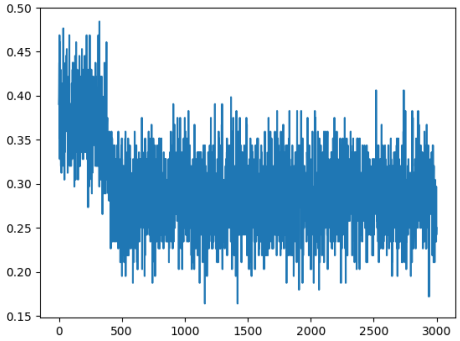
Batch size:128

Learning rate: 0.0001

Epoch:3000

Test error rate(left)/ Train error rate(right):

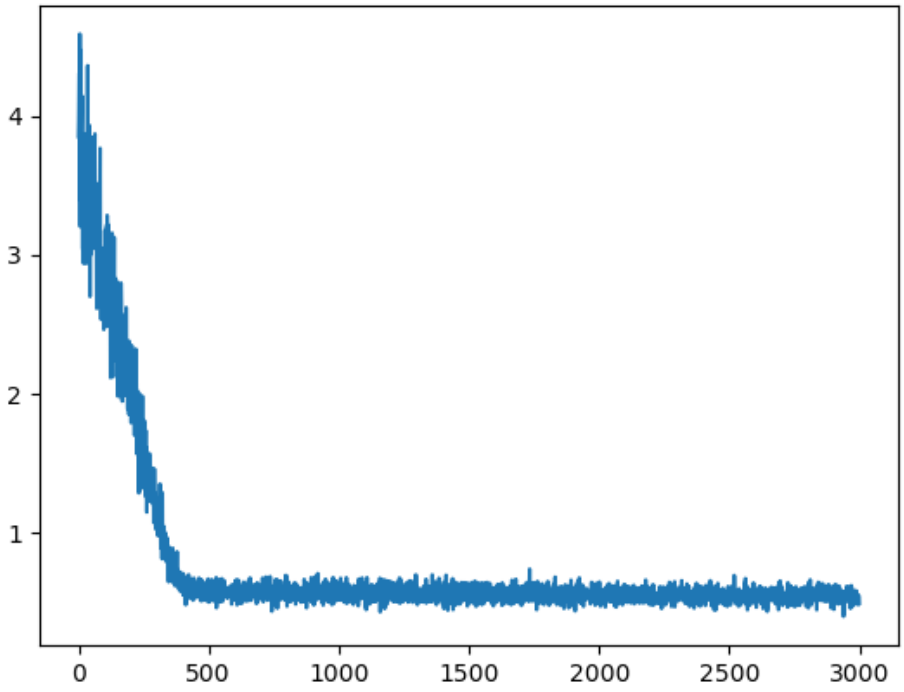




Learning curve:

Y axis: cross entropy

X axis: epoch



2 specific architecture

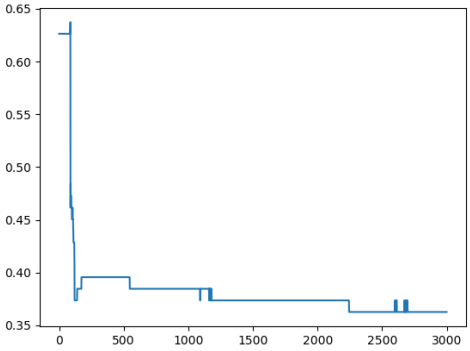
Layers: [6, 3, 3, 2]

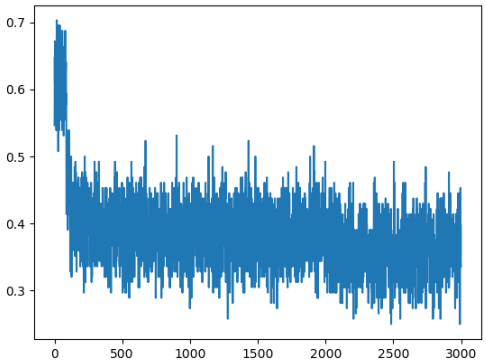
Batch size:128

Learning rate:0.0001

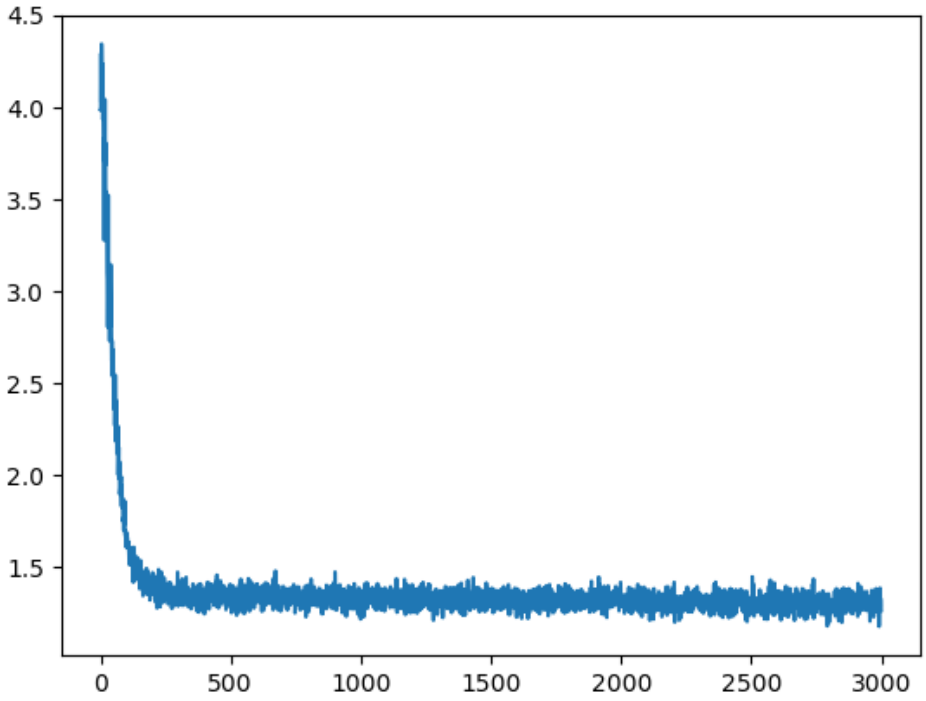
Epoch:3000

Test error rate(left)/ Train error rate(right):





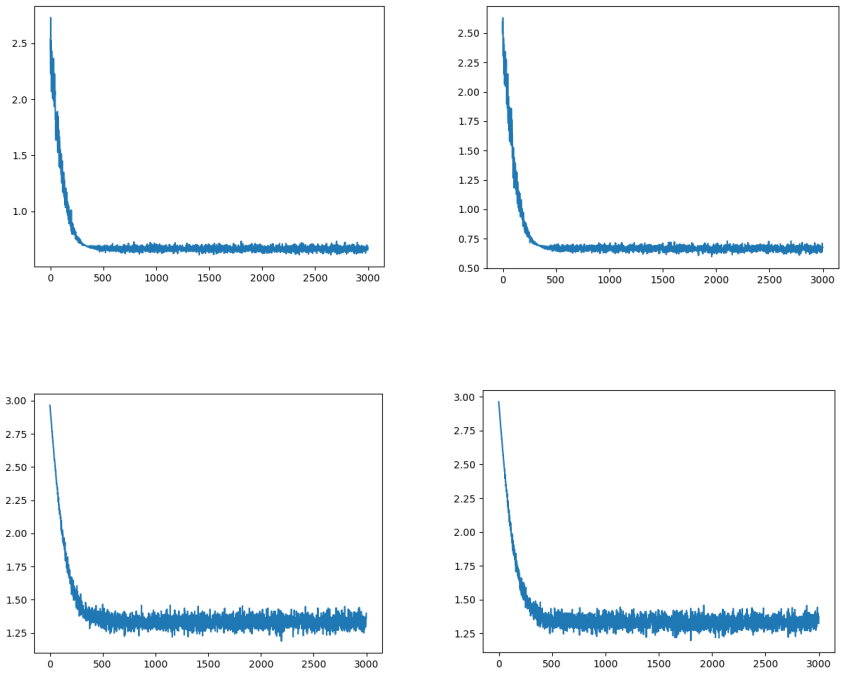
Learning curve:



3 normalized Fare

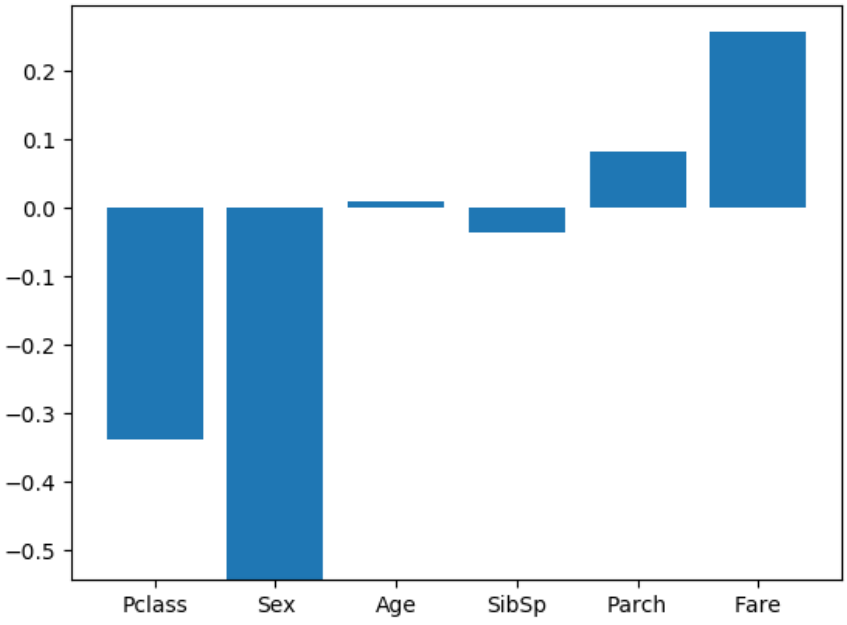
Doesn’t change much. The left two plots are drawn using the two neural network above, with standardized “Fare” feature.

All the non-categorical features can be normalized, such as “age”, “parch”, and “sibsp”.



4 feature affects

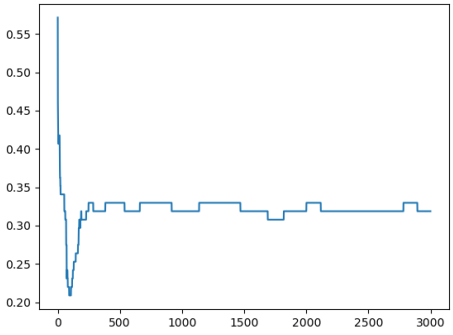
Correlation coefficient with Survive:

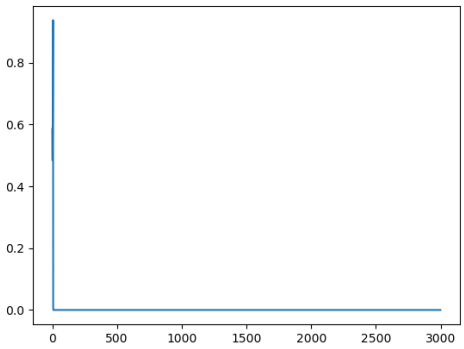


5 one hot ticket class

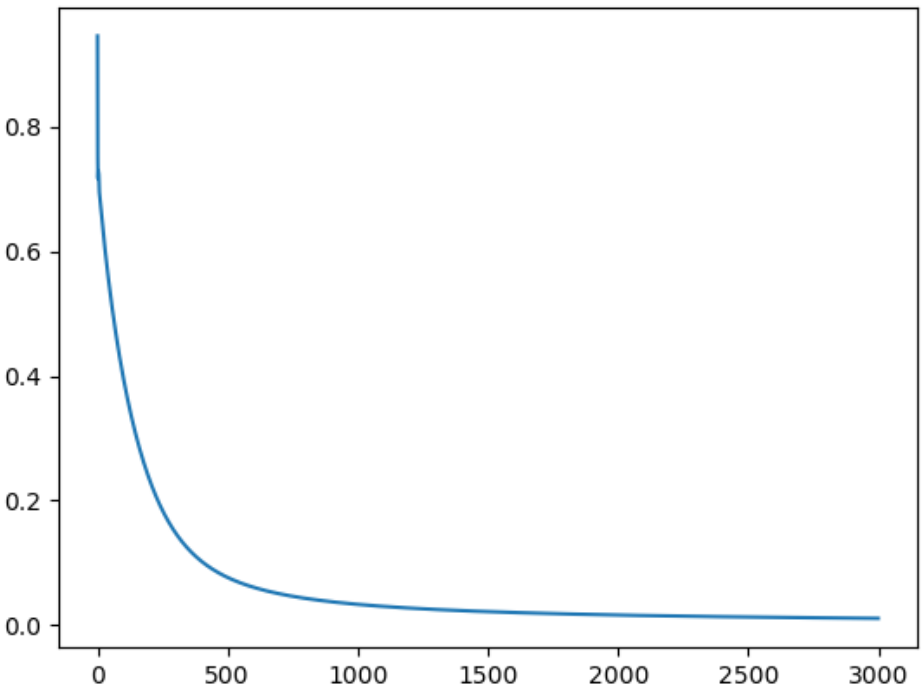
The learning curve is much more beautiful somehow.

Same parameter as #1





Learning curve:



6 self-designed sample

First data: Max of every feature with positive correlation coefficient, min of negative ones. Result: survive

Second data: Min of every feature with positive correlation coefficient, max of negative ones. Result: dead