UDACITY

‹ Return to "Deep Learning" in the classroom

DISCUSS ON STUDENT HUB

# Predicting Bike-Sharing Patterns

REVIEW

CODE REVIEW

HISTORY

## Meets Specifications

Awesome submission! Your code works well! The model has converged to a loss minima! Way to go! 👏🏽

In machine learning problems there are 2 important components in making a great model :

1. Model Selection and Tuning
2. Feature Engineering and Data Analysis
   For the current problem too we have to look at both these aspects. You have done a great job in model selection and tuning. The current model will be enough for predicting the dataset as you can see the model will perform pretty well for the entire data, but if you analyse the data a bit you will find some unique characteristics.
   Here is an explanation as to why the december holiday season predictions performing poor is because prior information about such trends was not captured in the data, i.e the dataset that we trained on does not have information on holiday season even for the previous year. So when a new pattern is experienced the model performance is bad. This can be solved by training the model with more data possibly randomised data so that the model captures such patterns and predicts well. Think of it like you are the manager for the bike sharing service, this is your first year there and you know about the trends from January to October, knowing that data you are most likely to anticipate that the trends from your previous experience will hold right? So you would make preparations accordingly, but once december hits the holiday starts and then people stay at their houses maybe and there is a slump, as this is your first time here you only expected as per your experience. This is the same case with the model. You will have this in mind the next year December right? If you notice properly the holiday season extends over a week, but you will find that the days near christmas which are considered holiday season are marked as non-holidays, so a new feature marking the holiday

which are considered holiday season are marked as non-holidays, so a new feature marking the holiday season will be really helpful along with training over additional holiday season data.

Hope this helps.

All the best! 👏🏼

## Code Functionality

**All the code in the notebook runs in Python 3 without failing, and all unit tests pass.**

Correct!

**The sigmoid activation function is implemented correctly**

Correct!

## Forward Pass

**The forward pass is correctly implemented for the network's training.**

Correct!

**The run method correctly produces the desired regression output for the neural network.**

Correct!

## Backward Pass

**The network correctly implements the backward pass for each batch, correctly updating the weight change.**

Correct!

**Updates to both the input-to-hidden and hidden-to-output weights are implemented correctly.**

Correct!

## Hyperparameters

The number of epochs is chosen such the network is trained well enough to accurately make predictions but is not overfitting to the training data.

Correct!

The number of hidden units is chosen such that the network is able to accurately predict the number of bike riders, is able to generalize, and is not overfitting.

Correct!

The learning rate is chosen such that the network successfully converges, but is still time efficient.

Correct!

The number of output nodes is properly selected to solve the desired problem.

Correct!

The training loss is below 0.09 and the validation loss is below 0.18.

Correct!

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