



## Build a Deep Learning Model

 **Peer-graded Assignment:** Build a Regression Model in Keras  
Grading in progress

 **Review Your Peers:**  
Build a Regression Model in Keras

## Summary

## Peer-graded Assignment: Build a Regression Model in Keras

## You submitted!

Your work is ready to be reviewed by classmates. You have reviewed enough classmates to receive a grade, but in the meantime, you may review more classmates. We'll email you when your grade is ready. Your grade should be ready by **Jan 16, 12:59 PM PKT**.

[Review Classmates' Work](#)

🔔 It looks like this is your first peer-graded assignment. [Learn more](#)

[Instructions](#) [My submission](#)[Discussions](#)

## Building a Regression Model in Keras

Submitted on December 13, 2019

[Shareable Link](#)

## PROMPT

## A. Build a baseline model (5 marks)

Use the Keras library to build a neural network with the following:

- One hidden layer of 10 nodes, and a ReLU activation function
  - Use the **adam** optimizer and the **mean squared error** as the loss function.
1. Randomly split the data into a training and test sets by holding 30% of the data for testing. You can use the **train\_test\_split** helper function from Scikit-learn.
  2. Train the model on the training data using **50 epochs**.
  3. Evaluate the model on the test data and compute the mean squared error between the predicted concrete strength and the actual concrete strength. You can use the **mean\_squared\_error** function from Scikit-learn.
  4. Repeat steps 1 - 3, **50 times**, i.e., create a list of **50** mean squared errors.
  5. Report the **mean and the standard deviation of the mean squared errors**.

Submit your Jupyter Notebook with your code and comments.

**Peer-graded Assignment: Build a Regression Model in Keras (A)**[🔗 Peer-graded Assignment: Build a Regression Model in Keras \(A\)](#)

## PROMPT

## B. Normalize the data (5 marks)

Repeat Part A **but use a normalized version of the data**. Recall that one way to normalize the data is by subtracting the mean from the individual predictors and dividing by the standard deviation.

**How does the mean of the mean squared errors compare to that from Step A?**

**Peer-graded Assignment: Build a Regression Model in Keras (B)**[🔗 Peer-graded Assignment: Build a Regression Model in Keras \(B\)](#)

## PROMPT

## C. Increase the number of epochs (5 marks)

Repeat Part B **but use 100 epochs this time for training**.

**How does the mean of the mean squared errors compare to that from Step B?**

**Peer-graded Assignment: Build a Regression Model in Keras (C)**[🔗 Peer-graded Assignment: Build a Regression Model in Keras \(C\)](#)

## PROMPT

## D. Increase the number of hidden layers (5 marks)

Repeat part B but use a neural network with the following instead:

- Three hidden layers, each of 10 nodes and ReLU activation function.

**How does the mean of the mean squared errors compare to that from Step B?**

**Peer-graded Assignment: Build a Regression Model in Keras (D)**[🔗 Peer-graded Assignment: Build a Regression Model in Keras \(D\)](#)

Edit submission

### Comments

Comments left for the learner are visible only to that learner and the person who left the comment.

