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utm_medium=display28

utm_campaign=Intelproblem

a real life problem. This article will require you

to know the basics of neural networks and have familiarity with

programming. Although the code in this article is in python, I have

focused on the concepts and stayed as language-agnostic as possible.

Let's get started!

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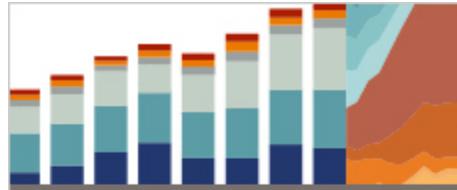
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Neural Networks
Popular libraries to solve it

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challenge/?utm_source=AVStickyBar&utm_medium=referral&utm_campaign=Intelscene&utm_content=DeepLearning

Neural Networks have been in the spotlight for quite some time now. For a more detailed explanation on neural network and deep learning [read here](#) (<https://www.analyticsvidhya.com/blog/2016/08/evolution-core-concepts-deep-learning-neural-networks/>). Its “deeper” versions are making tremendous breakthroughs in many fields such as image recognition, speech and natural language processing etc.

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The main question that arises is when to and when not to apply neural networks? This field is like a gold mine right now, with many discoveries uncovered everyday. And to be a part of this “gold rush”, you have to

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keep a few things in mind:

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- Firstly, neural networks require clear and informative data (and mostly big data) to train. To imagine Neural Networks as a child. It first observes how its parent walks. Then it tries to walk

the child learns how to perform a few times, but after few tries, it learns how to walk. If you don't let it practice, it won't learn to walk. The more exposure you give to the child, the better it is.

Secondly, neural networks for complex problems such as image classification belong to a class of algorithms called Deep Learning algorithms. These algorithms break down the problem into smaller form so that they become easier to solve (just like chewing food into smaller pieces). Think of it as chewing food before you gulp. This would be harder for traditional (non-representation learning) algorithms.

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General way to solve problems with Neural Networks

Neural networks is a special type of machine learning (ML) algorithm. So as every ML algorithm, it follows the usual ML workflow of data preprocessing, model building and model evaluation. For the sake of conciseness, I have listed out a TO DO list of how to approach a Neural

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6 Easy Steps to Learn Naive Bayes Algorithm (with codes in Python and R) (<https://www.analyticsvidhya.com/09/understaing-support-vector-machine-example-code/>)

Network problem.

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- Check if it is a problem where Neural Network gives you uplift over traditional algorithm (refer to the checklist in the section above)

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work architecture is most suitable through which ever language / divide it in batches our needs make better trained models using training and validation data sets for use

(<https://trainings.analyticsvidhya.com/courses>) For this article, I will be focusing on image data. So let us understand /course=v1:AnalyticsVidhya+DS101+2018T2



(<https://datahack.analyticsvidhya.com/contest>) While these images are pretty easy to understand to a human, a computer has a hard time to understand them. This phenomenon is called 'Semantic gap'. Our brain can look at the image and understand the complete picture in a few seconds. On the other hand, computer sees image as just an array of numbers. So the problem is how to we explain this image to the machine?

In early days, people tried to break down the image into "understandable" format for the machine like a "template". For example, a face always has a specific structure which is somewhat preserved in every human, such as the position of eyes, nose or the shape of our

/blog/2017/09/naive-bayes-explained/)



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a and popular

, with the dimensions referring to example, if you take a **2-D** image, it convert into a **3-D**. Download this learning path to start your data science journey.

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face. But this method would be tedious, because when the number of objects to recognise would increase, the "templates" would not hold.

Fast forward to 2012 when Deep learning architecture won the ImageNet challenge, a prestigious challenge to recognise objects from sovereignty in all the upcoming usefulness to solve image

normally use to solve image
recent survey

2016/08/deep-learning-path/) |
ng libraries have interface for
. The most popular libraries, to

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• Caffe (<http://Caffe.BerkeleyVision.org/>)
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(<https://www.analyticsvidhya.com/blog/2019/02/flair-nlp-library-python/>)

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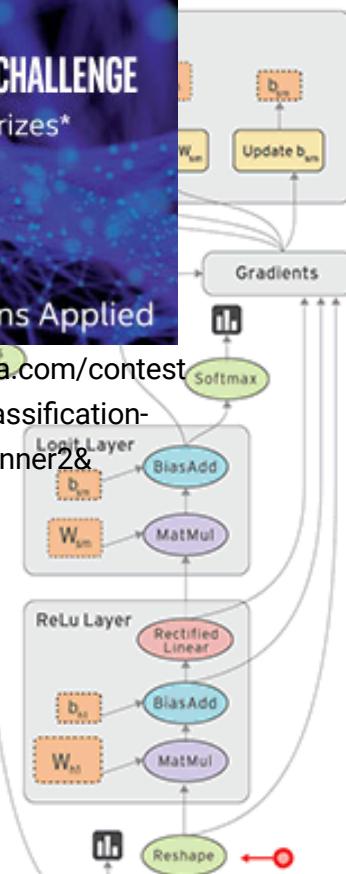
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 "TensorFlow is an open source software library for numerical computation using dataflow graphs.
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graph represents tensors, while graph multi-dimensional (aka tensors) between them. This allows you to talk to one or more desktop, server, or single API."

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Here is my simple definition –
numpy with a twist. If you have
TensorFlow will be a piece of
numpy and TensorFlow is that
paradigm. It first builds a graph
when a “session” is called, it
able, by changing internal data
(dimensional arrays). Building a
d as the main ingredient of
thematical constitution of a

(<http://colah.github.io/posts/2015-08-Backprop/>)



ral network library, but it's not
powerful neural network library.
than that. You can build other
as decision trees or k-Nearest
ng you normally would do in
s"

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(<https://datahack.analyticsvidhya.com/contents/practice-problems/intel-scene-classification-challenge/>)

- **Easy to train models** for distributed computing
- **Platform flexibility**. You can run the models wherever you want,

utm_medium=display_utm_campaign=whetherproblem

A typical “flow” of TensorFlow

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Every library has its own “implementation details”, i.e. a way to write
which follows its coding paradigm. For example, when implementing

scikit-learn, you first create object of the desired algorithm, then build a model on train and get predictions on test set, something like this.



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define hyperparameters of ML algorithm



a lazy approach. The usual flow is as follows:

This can be any mathematical

(<https://train.analyticsvidhya.com/courses>

/course-61AnalyticsVidhya/intro-to-ds101-2018t2">variables defined previously

magic starts!

filed graph is passed to the

on.

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Lets write a small program to add two numbers!

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```
# import tensorflow
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import tensorflow as tf

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# build computational graph
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```

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Note: We could have used a different neural network architecture to solve this problem, but for the sake of simplicity, we settle on feed forward multilayer perceptron with an in depth implementation.

Let us remember what we learned about neural networks first.

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A typical implementation of Neural Network would be as follows:

- Define Neural Network architecture to be compiled
- Transfer data to your model
- Under the hood, the data is first divided into batches, so that it can

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be ingested. The batches are first preprocessed, augmented and then fed into Neural Network for training

- The model then gets trained incrementally

CONTINUE THE PROCESS FOR A SPECIFIC NUMBER OF EPOCHS /

After training, we can then use the model for future use

check how it performs

problem – Identify the Digits

contest/practice-problem-

Take a look at our problem

identify digits from a given 28 x

28 pixels images. We have 5000 images for training and the rest for

testing. The dataset consists of train and test files. The dataset

contains a zipped file of all the images in the dataset and both the (https://trainings.analyticsvidhya.com/courses/intel-scene-classification-challenge) train.csv and test.csv have the name of corresponding train and test files. The dataset also contains a file named 'label_map.pbtxt' which provides the mapping between digit labels and their corresponding values. This file is not provided in the datasets, just the

make a neural network model.

your system. Refer the official

sub.com/tensorflow/tensorflow

ed/os_setup.md) for

instructions.

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import os
import numpy as np

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n control our models

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Now Interpret your datasets. These are in .csv formats, and have a filename along with the appropriate labels

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```
train = pd.read_csv(os.path.join(data_dir, 'Train', 'train.csv'))  
test = pd.read_csv(os.path.join(data_dir, 'Test.csv'))  
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```



os.path.join(data_dir, '

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• Let us see what our data looks like! We read our image and
utm_medium=display2&
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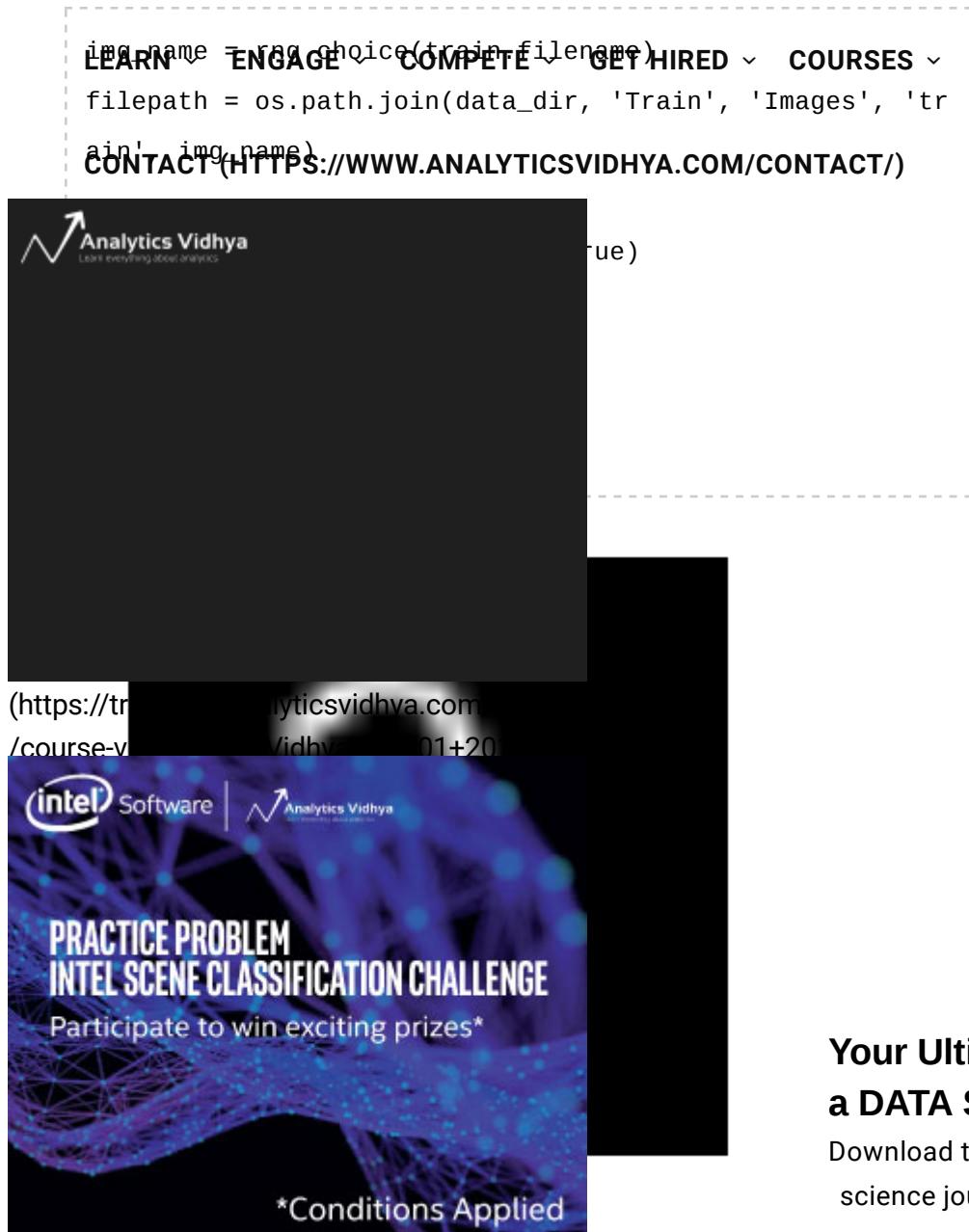
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/practice-problem-intel-scene-classification-

The above image is represented as a numpy array, as seen below:

utm_medium=display2&

```
In [39]: img
```

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(<https://www.analyticsvidhya.com/wp-content/uploads/2016/10/one.png>)

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store all our images as numpy

```
    data_dir, 'Train', 'Images'
    return np.array(temp)
    return np.array(temp)
```

(<https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS101+2018T2>)



```
    data_dir, 'Train', 'Images'
    return np.array(temp)
    return np.array(temp)
```

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As this is a typical ML problem, to test the proper functioning of our model we create a validation set. Let's take a split size of

70:30 for train set vs validation set

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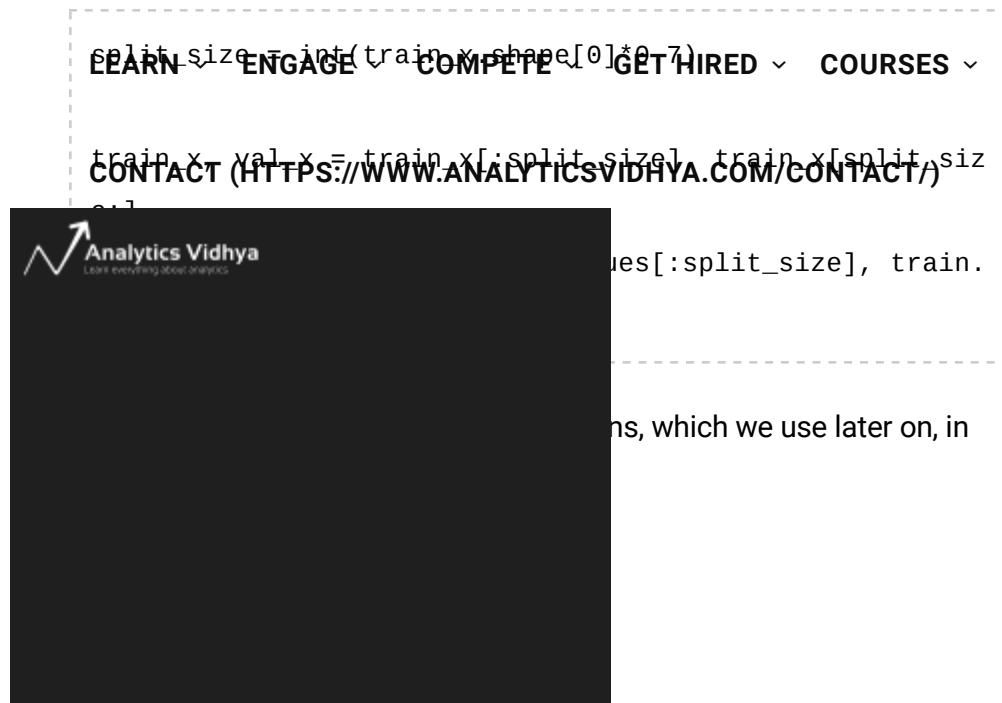
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```

def dense_to_one_hot(labels_dense, num_classes=10):
    """Convert class labels from scalars to one-hot vectors
    Args:
      labels: A tensor of type int32 or int64.
      num_labels: An integer scalar tensor indicating the number of
        labels per row in labels. This is required because we
        assume labels is a sparse tensor of shape (n, 1) where n is
        the number of examples, whereas dense_to_one_hot expects
        labels to be of shape (n, num_labels).
    Returns:
      A tensor of type float32 or float64 of shape (n, num_labels)
      where each row i contains the one-hot encoding of labels[i].
    """
    labels = tf.reshape(tf.cast(labels_dense, tf.int32), [-1, 1])
    batch_size = tf.shape(labels)[0]
    num_labels = tf.shape(labels)[1]
    labels_one_hot = tf.zeros([batch_size, num_labels], tf.float32)
    labels_one_hot = tf.scatter_nd(labels, tf.ones([batch_size, 1], tf.float32),
        [batch_size, num_labels])
    return labels_one_hot

```

(<https://trainings.analyticsvidhya.com/courses/>) unclean_batch_x.max()
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```

if dataset_name == 'train':
    batch_y = eval(dataset_name).ix[batch_mask, 'label'].values
else:
    batch_y = dense_to_one_hot(batch_y)

return batch_x, batch_y

```



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• Now comes the main part! Let us define our neural network architecture. We define a neural network with 3 layers, input, hidden and output. The number of neurons in input and output are 10×1 .
We take 500 neurons in the hidden layer according to your need. We also have many other options. Read the article on <https://www.analyticsvidhya.com/blog/2016/03/introduction-to-neural-networks/> to know more in detail.

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```
# number of neurons in each layer
input_num_units = 28*28
```



```
None, input_num_units])
None, output_num_units])
```

(<https://trainings.analyticsvidhya.com/courses/courseview/AnalyticsVidhya+DS101+2018T2>

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the neural network (ref
<https://www.analyticsvidhya.com/blog/2016/10/introduction-to-neural-networks-fundamentals-neural-net/>
 the terminologies)

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random_normal([input_num_units, output_num_units]),
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(https://datahack.analyticsvidhya.com/contest/practice-problem/intel-scene-classification-challenge/?utm_source=AVStickyBanner2&utm_medium=display&utm_campaign=intelproblem)

```
'hidden': tf.Variable(tf.random_normal([hidden_num_units], seed=seed)),
'output': tf.Variable(tf.random_normal([output_num_units], seed=seed))
```

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- Now create our neural networks computational graph
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```

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    x, weights['hidden']), b
    layer)
    layer, weights['output'])

neural network

```

(https://trainings.analyticsvidhya.com/courses/max_cross_entropy_with_l1/course/v1:AnalyticsVidhya+DS101+2018T2)

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propagation algorithm. Here we
12.6980), which is an efficient
m. There are a number of
flow (refer [here](#)
https://r0.11/api_docs/python)

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/practice-problem-intel-scene-classification-

challe/?utm_source=AnalyticsVidhya&utm_medium=referral&

utm_campaign=intelproblem)

```

    init = tf.initialize_all_variables()

```

- Now let us create a session, and run our neural network in the session. We also validate our models accuracy on validation set

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with tf.Session() as sess:
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```

# create initialized variables
sess.run(init)

batch
ding batch
ate to minimize

shape[0]/batch_size)

```

(<https://trainings.analyticsvidhya.com/courses>):

/course-v1:AnalyticsVidhya+DS101+2018T2+hatch_creator(batch_size,

 minimizer, cost], feed_dict

batch
batch

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(<https://datahack.analyticsvidhya.com/contest>):

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Find predictions on val set
utm_campaign=intelproblem)

```

pred_temp = tf.equal(tf.argmax(output_layer, 1), tf.
argmax(y, 1))

accuracy = tf.reduce_mean(tf.cast(pred_temp, "float"))

```

))

print "Validation Accuracy:", accuracy.eval({x: val})

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```
x.reshape(-1, input_num_units), y: dense_to_one_hot(val_
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y))}
```

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(https://datahack.analyticsvidhya.com/contest/practice-problem-intel-scene-classification-challe/?utm_source=AVStickyBanner2&utm_medium=display2&utm_campaign=intelproblem)

_x.reshape(-1, input_num

s, let's visualize its predictions

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(https://datasciencecsvidhya.com/contest-practice-predictive-scene-classification-challenge/?utm_medium=AVSticky-bar&utm_campaign=problem)

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(<https://w>

www.analyticsvidhya.com/wp-content/uploads/2016/10/8.png

8 9

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- We see that our model performance is pretty good! Now let's

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Create a submission



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Sample_submission.filename = test.filename



```
join(sub_dir, 'sub01.cs')
```

and neural network!

[LIMITATIONS OF TENSORFLOW](http://limits.tensorflow.org)

(<http://limits.tensorflow.org>) /course-v1:AnalyticsVidhya+DS101+2018T2



ful, it's still a low level library.
as a machine level language.
need modularity and high level

more awesomeness to come!
the more the merrier

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(<http://datahack.analyticsvidhya.com/contest>) for specifying how the library

/practice problem developed in the classification-

challe/?utm_source=AVStickyBanner2&

utm_medium=display2&

utm_campaign=intelproblem)

TensorFlow vs. Other Libraries

TensorFlow is built on similar principles as Theano and Torch of using mathematical computational graphs. But with the additional support of distributed computing, TensorFlow comes out to be better at solving complex problems. Also deployment of TensorFlow models is already



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supported which makes it easier to use for industrial purposes, giving a fight to commercial libraries such as DeepLearning4j, H2O and Turi. TensorFlow has APIs for Python, C++ and Matlab. There's also a recent [CONTACT](http://www.analyticsvidhya.com/contact/). So, TensorFlow is a great choice for industrial language support.



network with TensorFlow. This understand how to get started a pinch of salt. Remember that you have to tweak the code a

(<https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS1.01+2018T2>)



Many of the above functions can be abstracted to give a seamless end-to-end solution. In scikit-learn, you might know the "hood" implementations to although TensorFlow has most abstracted, high level libraries are

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<https://github.com/tensorflow>

(https://datahack.analyticsvidhya.com/contest/practice-problem/intel-scene-classification-challenge/?utm_source=AVStickyBanner&utm_medium=display&utm_campaign=intelproblem) Rajat Monga (TensorFlow technical lead) "TensorFlow for everyone" (https://youtu.be/wMw8Bbb_eIE) video

End Notes

I hope you found this article helpful. Now, it's time for you to practice and read as much as you can. Good luck! If you follow a different



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approach / package / library to get started with Neural Networks, I'd love to interact with you in comments. If you have any more suggestions, drop in your comments below. And to gain expertise in working out neural networks, visit www.analyticsvidhya.com/contests.



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-blog&pcampaignid=MKT-
r2515-1)

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tensorflow/?share=linkedin&nb=1)
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challenge/?utm_source=AVStickyBanner2&
utm_medium=display2&
utm_campaign=intelproblem)

(<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/?share=pocket&nb=1>)

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pus- /blog/2018/05/deep-
ep- learning-faq/)

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May 21, 2018
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2017/1 Why are GPUs
(<https://trainings.analyticsvidhya.com/courses>
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utm_medium=social&utm_source=Facebook
utm_medium=referral&utm_source=LinkedIn
utm_campaign=intelproblem)
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www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/

I really appreciate your effort for
the dataset you used in this
tutorial. There are 4 .gz files only so I can't understand that how to have
[the Train.csv](https://trainings.analyticsvidhya.com/courses/the-train.csv), [Test.csv](https://trainings.analyticsvidhya.com/courses/test.csv) and [Sample Submission.csv](https://trainings.analyticsvidhya.com/courses/sample-submission.csv). Please help advise



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article. This article is
“Identify the digits” So the datasets (Train.csv, Test.csv) belong to that
https://datahack.analyticsvidhya.com/contest/practice-problem/intel-scene-classification-challenge/?utm_source=AV%20Sticky%20Banner2&utm_medium=display&utm_campaign=Inteproblem). Download the datasets from
there. Thanks!

**JERRY**

[October 5, 2016 at 4:26 am](#)

[\(https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/\)](https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/)

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Hi Faizan! Again thanks a lot for this article. It is very useful for us beginners to move the first step



FAIZAN SHAIKH Reply

October 5, 2016 at 7:06 am

(<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-116808>)

(<https://trainings.analyticsvidhya.com/courses>) My pleasure. Stay tuned for more!

/course-v1:AnalyticsVidhya+DS101+2018T2



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www.analyticsvidhya.com/blog/2016/neural-networks-using-tensorflow

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/practice-problem-intel-scene-classification-challenge/?utm_source=AVStickyBanner2&utm_medium=display&utm_campaign=Intelproblem



FAIZAN SHAIKH

October 21, 2016 at 9:25 am

(<https://www.analyticsvidhya.com/blog/2016/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-117371>)

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Hello Pmitra,



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There are three main directory paths to specified in the code,
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* **root_dir** : This is the main directory in which all your codes
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* **data_dir** : This is where your csv files and images are
MISSION (<https://www.analyticsvidhya.com/mission/>)

similar to this:



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(https://datahack.analyticsvidhya.com/contest/practice-problem/intel-scene-classification-challenge/?utm_source=AVStickyBanner2&utm_medium=display2&utm_campaign=intelproblem)

the code to check whether you

ided is for your ease, and you
purposes. For example, you

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PMITRA

October 22, 2016 at 2:50 pm

<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-117413>

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Thanks for reading my post and replying but that unfortunately did not help. I still get an error "File does not exist" while running the above code.

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E:\Analytics_Vidya\TFlow

E:\Analytics_Vidya\TFlow

exist but still I am unable to get code. Moreover, to add a point I 7 docker to run Tensorflow book for Python 2.7.

(<https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS101+2018T2>) Please help and suggest so that I can run my code



FAIZAN SHAIKH [Reply](#)

October 22, 2016 at 3:16 pm

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[117415](#)

(https://datahack.analyticsvidhya.com/contests/practice-problem-intel-scene-classification-challenge/?utm_source=AVStickyBanner2&utm_medium=display&utm_campaign=intelproblem) Hello Pmitra,

If you're setting your directories correctly, you don't need to change any code below. Did your sanity checks pass?

```
# check for existence
print os.path.exists(root_dir)
print os.path.exists(data_dir)
```

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print os.path.exists(sub_dir)
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PS: If you still have difficulties, mail me

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https://datahack.analyticsvidhya.com/contest/practice-problem/intel-scene-classification-challenge/?utm_source=AVStickyBanner2&utm_medium=display2&utm_campaign=intelproblem)



PMITRA Reply

October 23, 2016 at
12:28 pm
(<https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow/#comment-117439>)

Hi,

Thank you again.

I have dropped you an email with my code files. I have been trying various ways to run the practice problem

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at ease on docker. Download this learning path to start your data installation of TF. science journey.

Kindly, assist me to modify the code with an workaround.

Regards,
 Paushali



**Fabrizio
Shahi**

October
23, 2016

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at 12:33



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[/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow/#comment-117440\)](https://www.analyticsvidhya.com/introduction-to-implementing-neural-networks-using-tensorflow/#comment-117440)

Ok. Let me check

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```
index_offset = np.arange(num_labels)* num_classes
challenge/?utm_source=AVStickyBanner2&
labels_one_hot = np.zeros((num_labels, num_classes))
utm_medium=display&
Thanks again
utm_campaign=intelproblem)
Mimo
```

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I'm usually work with R and
better knowledge of tensorflow.

in your code to make

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FAIZAN SHAIKH

November 3, 2016 at 7:13 am

(<https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow/#comment-117440>)

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[tensorflow/#comment-117863\)](#)
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Updated the code. Thanks for notifying!

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“.zip”

(<https://datahack.analyticsvidhya.com/contest/practice-problem-course/intel-scene-classification-challenge/>)

[H16auGp.zip](#)
[test/practice-problem-H16auGp.zip](#)

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6 pm

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19222)

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me for me. Could you

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April 22, 2017 at 1:58 am

<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-127362>

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(<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-127362>)

but how do we unzip train*.zip
g some issues!

FAIZAN SHAIKH [Reply](#)

April 22, 2017 at 7:39 am

<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-127377>

is would help you
<https://www.lifewire.com/how-to-zip-unzip-files-and-folders-on-a-mac-2260188>
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(December 6, 2016 at 8:49 am) (<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-119280>)

(<https://datahack.analyticsvidhya.com/contest/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-119280>)

utm_medium=display&utm_source=AVStickyBanner2&utm_campaign=intelproblem)
GUI interface of ubuntu was unable to extract the file so i use CLI and solved it.

Method 1

But my problem did not end here.

%pylab inline is causing error and its showing unresolved reference in my case.

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I have created tensor flow virtual environment for running this code but its not resolving.

method2 CONTACT ([HTTPS://WWW.ANALYTICSVIDHYA.COM/CONTACT/](https://WWW.ANALYTICSVIDHYA.COM/CONTACT/))



the dependencies installed in the following directories.

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4 am

<https://www.analyticsvidhya.com/blog/2016/10/an...>
[implementing-neural-networks-using-tensorflow-in-ipython-notebook/#comment-119284](https://www.analyticsvidhya.com/blog/2016/10/implementing-neural-networks-using-tensorflow-in-ipython-notebook/#comment-119284)

(<https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS101+2018T2>)

on an ipython notebook.

example %pylab inline) would

ories, refer the comments

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6, 2016 at 11:02 am science journey.

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(<https://datahack.analyticsvidhya.com/contest/10/an-introduction-to-implementing-neural->

/practice-problem-intel-scene-classification-networks-using-tensorflow/#comment-119289)

challe/?utm_source=AVStickyBanner2&

utm_medium=display2& After debugging somehow i managed to run the

utm_campaign=intelproblem) code but i am getting this error even after doing all steps correctly.

AttributeError Traceback (most recent call last)

in ()

26 pred_temp = tf.equal(tf.argmax(output_layer, 0), tf.argmax(y, 1))



Subscript

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 → 28 print "Validation Accuracy:",

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```
max(output_layer, 1)

'copy.ndarray' object has no
```

FAIZAN SHAIKH [Reply](#)

January 6, 2016 at 11:26 am

<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-119293>

(<https://trainings.analyticsvidhya.com/courses/networks-using-tensorflow/#comment-119293>)
 /course-v1:AnalyticsVidhya+DS101+2018T2



I have updated the same.

[Reply](#)

<https://www.analyticsvidhya.com>

implementing-neural-networks-using-

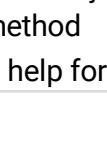
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and I am new in deep learning journey.

I have a problem with prepro method. Why do we need this method
 (https://datahack.analyticsvidhya.com/contest-and-why-the-value-of-seed-and-batch_size-is-128). It will be great help for
 /practice-problem-intel-scene-classification-getting-an-answer.

Thanks:
 utm_medium=display&
 utm_campaign=intelproblem)



FAIZAN SHAIKH

January 10, 2017 at 12:01 pm

<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-120812>

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Hey Sumit, I'm glad you like it.

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The “preproc” method in simple words, is a data

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(explained in detail here <https://www.analyticsvidhya.com>

[data-preprocessing-python-](#)

[tcsvidhya.com/blog/2016](#)

[rocessing-python-scikit-learn/\(\)](#)

ore sending it to the network, it

work converges faster)

they can be set as per your

you to try changing the values

help

(<https://trainings.analyticsvidhya.com/courses>

/course-v1:AnalyticsVidhya+DS101+2018T2

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www.analyticsvidhya.com/blog/2016

[neural-networks-using-tensorflow](#)

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/practice-problem-intel-scene-classification-

challe/?utm_source=AVStickyBanner2&

utm_medium=display&

utm_campaign=intelproblem)



FAIZAN SHAIKH

[January 10, 2017 at 1:49 pm](#)

[Reply](#)

(<https://www.analyticsvidhya.com/blog/2016/10/an>

[introduction-to-implementing-neural-networks-using](#)

[tensorflow/#comment-120818](#))



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Have you kept the code in the same level of indentation?



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with tf.Session() as sess:
LEARN ▾ **ENGAGE** ▾ **COMPETE** ▾ **GET HIRED** ▾ **COURSES** ▾ Q
 (indent) ...
CONTACT (<https://www.analyticsvidhya.com/contact/>)
 (indent)



(<https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS101+2018T2>)
 I exactly did it with this single session.



(https://datahack.analyticsvidhya.com/contest/practice-problem-intel-scene-classification-challenge/?utm_source=AVStickyBanner2&utm_medium=display2&utm_campaign=intelproblem)
https://github.com/analyticsvidhya/identify_the_digits/blob/master/tensorflow/notebooks/simple_neural_network.ipynb

FAIZAN SHAIKH [Reply](#)

January 10, 2017 at 2:02 pm

(<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-120821>)

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and running it on your end? Let me know if it still does not work

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2:11 pm

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<https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow/#comment-120822>

Sure, I will try it. And definitely notify you.

[Reply](#)

ANAND
(<https://trainings.analyticsvidhya.com/courses>)
January 11, 2017 at 11:38 am (<https://www.analyticsvidhya.com/course-v1:AnalyticsVidhya+DS101+201812>)

[implementing-neural-networks-using-](#)



see that you save the

here a way to save the trained

can use it for subsequent runs

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(https://datahack.analyticsvidhya.com/contest/practice-problem-intel-scene-classification-challenge/?utm_source=AVStickyBanner2&utm_medium=display&utm_campaign=intelproblem)
FAIZAN SHAIKH
January 11, 2017 at 2:10 pm
(<https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow/#comment-120878>)

Thanks Anand.



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Actually that's a good question. The answer is Yes, you can save all the individual weights and biases of a neural network



Subscript

in Tensorflow. There's a function included called train.Saver() which does exactly this for you. Refer here

https://www.tensorflow.org/api_docs/python/state_ops

CONTACT https://www.tensorflow.org/api_docs/python/state_ops



(s))

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<https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow>

I have tried to modify the code by myself in order to input a matrix that
(<https://trainings.analyticsvidhya.com/courses/course/v1/AnalyticsVidhya+DS101+2018T2>)

is not functioning:



0, 841) for Tensor
00)'

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(https://datahack.analyticsvidhya.com/contest/practice-problem-intel-scene-classification-challenge/?utm_source=VStickyBanner2&utm_medium=display&utm_campaign=intelproblem)



PAIZAN SHAIKH

January 23, 2017 at 11:14 am

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<https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow/#comment-121464>

Hey!



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Its great that you've tried to modify the code to meet your



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needs. Could you specify which parts you changed? There
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might be something you've left that's causing the problem.
(PS: posting your code here <http://nbviewer.jupyter.org/>
CONTACT (<http://nbviewer.jupyter.org/contact>)



g you would like to clarify, feel

free to comment here

(<https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS101+2018T2>)



(https://datahack.analyticsvidhya.com/contest/practice-problem-intel-scene-classification-challe/?utm_source=AVStickyBanner2&utm_medium=display2&utm_campaign=intelproblem)

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 ヤトリシノ・イグセム
 January 23, 2017 at 11:34 am
[\(https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-in-tensorflow/#comment-121465\)](https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-in-tensorflow/#comment-121465)

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I am currently working on implementing a neural network for predicting molecular structures. I am using at the moment the code from the blog you linked (<https://www.analyticsvidhya.com/document/t8raL75CUw3vUqJ2P843EoBm>). I have also uploaded it to Google Drive (<https://docs.google.com>). I am trying to feed the network with a molecular structure (29*29 matrix) and try to relate it with the band gap (HOMO-LUMO gap) (<https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS101+2018T2>)



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 January 23, 2017 at 1:58 pm
[\(https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-121473\)](https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-121473)

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(https://datahack.analyticsvidhya.com/contest/practice-problem-intel-scene-classification-challenge/?utm_source=AVStickyBanner2&utm_medium=display2&utm_campaign=intelproblem)

I went through your code and I would suggest you a few things.

* The number "784" which I had mentioned in the code (as you might have guessed correctly) is the flattened input dimensions of matrix. (i.e.  * Download Resource 28). There was a line in the code which

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you have modified to (.reshape(-1, 999) which might not be correct. With your feedback I have changed the code

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* The problem you are trying to solve is a continuous variable, and classes. Hence it is a n problem and not a tion problem for which the originally designed for. So you ve to change a few more the code. I would leave this in ds as a learning exercise. If any help in that, do post it the discussion portal

(<https://discuss.analyticsvidhya.com/>)

(<https://trainings.analyticsvidhya.com/courses>)

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[implementing-neural-networks-using-tensorflow/#comment-121477](https://www.analyticsvidhya.com/implementing-neural-networks-using-tensorflow/#comment-121477)

Thank You sir.

I will try this by myself first

tomorrow 😊

Thanks again.

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5:07 am

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[/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow/#comment-121500](https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow/#comment-121500))

I have tried to rewrite the code into autoencoder to fit the regression purpose

<https://docs.google.com/document/d/1jga0cxaCK48xkt8raL75C/edit?usp=sharing>

[\(https://docs.google.com/document/d/1jga0cxaCK48xkt8raL75C/edit?usp=sharing\)](https://docs.google.com/document/d/1jga0cxaCK48xkt8raL75C/edit?usp=sharing)

But in line 66 which is this

line

`_ , c = sess.run([optimizer, cost], feed_dict={x: batch_xs, y: batch_ys})`

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batch_xs,y: batch_ys)ownload this learning path to start your data This error message open our journey.

TypeError: The value of a feed cannot be a tf.Tensor object. Acceptable feed values include Python scalars, strings, lists, or numpy ndarrays.

From what I known, tensorflow don't accept tensor for feed_dict, but I don't know how should I change my code...

Any help is appreciated.



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SHAII**

January

24, 2017

at 7:00

pm

(https://v
/blog/20
/10/an
introduc
to-
impleme
neural-
networks
using-
tensorflow
/#comm
121551)



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The message you

got should

probably give you
a hint. **a DATA Scientist!**

tf.train.Datashard this learning path to start your data
meant to continue journey.

'tensor' object,

but a feed_dict

does not allow an
uninitialized

object (such as
tensor) as input.

You should

probably refer the

above code for
creating batches,

as you can just

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define your own
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function easily.



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Let me know if the problem persists. And remember to post at least the first five rows of your data, because I may be making wild guesses without it!



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Dear Sir,
The problem of mine still exist.
This is the code that I am using

<https://c/>
[/docum](https://d/)
[/d/1jga/](https://d/)
[/edit?us](https://edit?us)
(<https://d/>
[/docum](https://d/)
[/d/1jga/](https://d/)
[/edit?us](https://edit?us)

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that I am using

<https://c/>
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xTbEV3

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/view?u

When I

try to

run the

code,

this

error

messag

pop out

ValueEr

Cannot

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of

shape

(140,

29, 29)

for

Tensor

u'Place

which

has

shape

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87

_ c =

sess.run

cost1,

feed_dic

train_x,

y:

train_y},

I still
cannot
solve

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the
problem

Any

Help is

great...

Thank

You

very

much.



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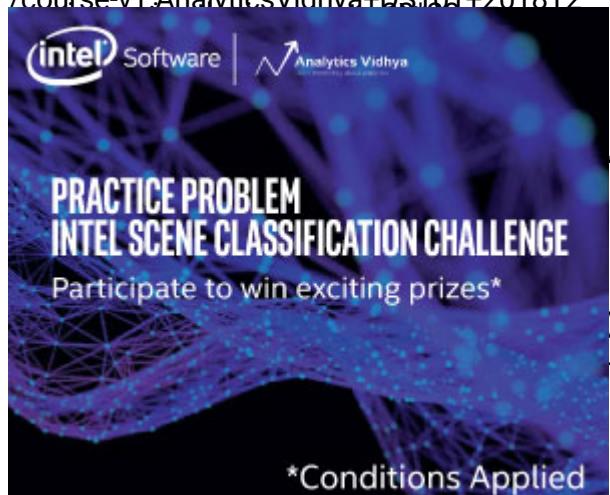
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[www.analyticsvidhya.com/blog/2016
neural-networks-using-tensorflow](http://www.analyticsvidhya.com/blog/2016/neural-networks-using-tensorflow)

Really good guide.
(<https://trainings.analyticsvidhya.com/courses>
but I try to execute the code with some changes:
[/course-v1:AnalyticsVidhya+DS101+2018T2](https://course-v1:AnalyticsVidhya+DS101+2018T2)



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:
row[1], row[0])

*Conditions Applied

([https://datahack.analyticsvidhya.com/contest/temp.append\(img\) /practice-problem-intel-scene-classification-train_X = np.stack\(temp\) challe/?utm_source=AVStickyBanner2&utm_medium=display&utm_campaign=intelproblem](https://datahack.analyticsvidhya.com/contest/temp.append(img) /practice-problem-intel-scene-classification-train_X = np.stack(temp) challe/?utm_source=AVStickyBanner2&utm_medium=display&utm_campaign=intelproblem))

and changed the num of classes to be 50 (as the letters and the signs i have to recognize).

i changed also this:

```
input_num_units = 28*28
hidden_num_units = 500
output_num_units = 50
```

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epochs = 5

batch_size = 60

learning_rate = 0.01

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and every time i run the code the accuracy is 0.



I have an idea why?

Is there anything of seed ?

H

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am

[dhya.com/blog/2016/10/an...](https://www.analyticsvidhya.com/blog/2016/10/an...)

(<https://trainings.analyticsvidhya.com/courses/tensorflow/#comment-122017>)
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output (aka train_y). In the
"one_hot" does this for you**Your Ultimate path for Becoming
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My train set has 112 images and 8
challenge source = A Sticky Banner 28. And I only train with single layer (not
medium layer as you above code). My problem as below
Epoch: 0 cost = 0.00000

Epoch: 2 cost = 0.00000

Epoch: 3 cost = 0.00000

Epoch: 4 cost = 0.00000

Epoch: 5 cost = 0.00000

My code:

from collections import Counter

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```
import os  
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import numpy as np  
import pandas as pd  
from IPython.display import Image  
CONSTANT TIPS: WWW.ANALYTICSVIDHYA.COM/CONTACT/
```



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```
(https://datahack.analyticsvidhya.com/contest/practical-image-intel-scholarship-challenge/participate?path=\\tinyBooster\\test\\img_name)  
utm_medium=referral&image_path  
utm_campaign=scholarship\\data8')
```

```
img = tf.reshape(img,[ -1])
```

```
temp.append(img)
```

```
test_x = np.stack(temp)
```

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1

Subscript

```
# take a split size of 70:30 for train set vs validation set
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split_size = int(train_x.shape[0]*0.7)
train_y = train.label.values[0:]
#CONTACT(MTTPS://TRAININGS.ANALYTICSVIDHYA.COM/CONTACT/)

# This code is to initialize the [split_size],
```



```
_classes=8):
    "one-hot vectors"""""

    num_classes
    num_classes))
labels_one_hot=np.array([labels_dense.ravel()]) = 1
```

(<https://trainings.analyticsvidhya.com/courses>

/course-v1:AnalyticsVidhya+DS101+2018T2



```
(batch_x = eval(dataset_name)[batch_x][batch_mask]).reshape(-1,
/practice-problem/intel-scene-classification-
challenge?utm_source=AVStickyBanner2&
batch_x = preproc(batch_x)
utm_medium=display2&
utm_campaign=intelproblem):
dataset_name = train:
```

```
batch_y = eval(dataset_name).ix[batch_mask, 'label'].values
batch_y = dense_to_one_hot(batch_y)
```

```
return batch_x, batch_y
```

```
input_num_units = 128*128
```

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"This code is to initialize the [split_size],"

```
_classes=8):
    "one-hot vectors"""""

    num_classes
    num_classes))
```

```
labels_one_hot=np.array([labels_dense.ravel()]) = 1
```

(<https://trainings.analyticsvidhya.com/courses>

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```
batch_x.max()
```

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return appropriate format"""; Download this learning path to start your data science journey.

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output_num_units = 8
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```
# define placeholders
#placeholder(https://www.analyticsvidhya.com/contact/)
x = tf.placeholder(tf.float32, [None, input_num_units])
y = tf.placeholder(tf.float32, [None, output_num_units])
```



```
(https://trainings.analyticsvidhya.com/courses/course/av1:AnalyticsVidhya+DS101+2018T2+e1))
```



```
(*Conditions Applied  

https://datahack.analyticsvidhya.com/contest/practice-problem-intel-scene-classification-session/run.html?utm\_source=AVStickyBanner2&utm\_medium=display&utm\_campaign=intelproblem)
```

```
total_batch = int(train.shape[0]/batch_size)
for i in range(total_batch):
    batch_x, batch_y = batch_creator(batch_size, train_x.shape[0], 'train')
    c = sess.run([optimizer, cost], feed_dict = {x: batch_x, y: batch_y})
    avg_cost += c / total_batch
```

```
copy_with_logits(output_layer,
```

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```
# if epoch % 200 ==0:  
    LEARN "ENGAGE", "COMPETE", "GET HIRED", COURSES  
    print "Epoch:", (epoch+1), "cost = ", (.5f).format(avg_cost)  
  
print "Training complete! Go to www.analyticsvidhya.com/contact/"
```



I How is batch_size value

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[implementing-neural-networks-using-](https://www.analyticsvidhya.com/introduction-to-implementing-neural-networks-using-tensorflow/)

dataset length is 112 less than
(<https://trainings.analyticsvidhya.com/courses>)
batch_size is 128. So total_batch is always 0. But, When I change
[/course.v1.analyticsVidhya+DS101+2018T2](https://course.v1.analyticsVidhya+DS101+2018T2) dataset length(such as 8), a new error



ze, train_x.shape[0], 'train')

ator

batch_size * mask].reshape(-1,

the unchanged

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FAIZAN SHAIKH

February 23, 2017 at 10:50 am

challe/?utm_source=AVStickyBanner2&
[https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow/#comment-123173\)](https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow/#comment-123173)

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Hey can you print the shape of batch_mask variable and
check if its not zero?

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/course-v1:AnalyticsVidhya+DS101+2018T2



How do I have to check and fix it?

(https://datahack.analyticsvidhya.com/contest/practice-problem-intel-scene-classification-challe/?utm_source=AVStickyBanner2&utm_medium=display2&utm_campaign=intelproblem)

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March 2, 2017 at 5:57 am (<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/>)
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and get only 60% accuracy.
ayer from 100-1000 and
ove the accuracy with this

H **Reply**

(<https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow/#comment-129115>)

(<https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS101+2018T2>) You can try using a better architecture than MLP, for example,

data is textual sentences. I

tweaks in this article:

<https://www.analyticsvidhya.com/blog/2016/10/tutorial-implementing-keras-with-image-classification/>

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(https://datahack.analyticsvidhya.com/contest/practice-problem-intel-scene-classification-challenge/?utm_source=AVStickyBanner2&utm_medium=display2&utm_campaign=intelproblem)

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CONTACT (<https://www.analyticsvidhya.com/contact/>)



s?

```
    ws['hidden']), biases['hidden'])  
    weights['output']) +
```

!+?

(<https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS101+2018T2>)

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(<https://www.analyticsvidhya.com/introduction-to-implementing-neural-networks-using-tensorflow/#comment-129114>)

erately from weights. You can

ator, it is converted to "tf.add"
 action. So for all practical

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Thank you for this helpful material.

I was working on this project and I found the following error

InvalidArgumentException: logits and labels must be same size: logits_size=[512,10] labels_size=[128,10]
 [[Node: SoftmaxCrossEntropyWithLogits_2 =



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SoftmaxCrossEntropyWithLogits[T=DT_FLOAT, _device="/job:localhost
 /replica_0/task_0/cpu_0"]([Reshape_6, Reshape_7])



During handling of the above exception, another exception occurred:

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cent call last)

```
batch_size, train_x.shape[0], 'train')
d_dict = {x: batch_x, y:
```

tions) to solve it but it still
solve it. :

(<https://trainings.analyticsvidhya.com/courses>

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[networks-using-tensorflow/#comment-129117">ow/#comment-129117](#)

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batch_x) you are passing is the
batch_y)

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(<https://datahack.analyticsvidhya.com/contest>

/10/an-introduction-to-implementing-neural-networks-using-tensorflow
 /practice-problem-intel-scene-classification-
 /#comment-T27104)

challe/?utm_source=AVStickyBanner2&

utm_medium=display&

utm_campaign=intelproblem)

I am currently working on image dataset. Eg. Train Dataset has multiple
sub folders like Automobiles, Flowers, Bikes and each folder having
100 images of different size. Labels are given as subfolders name. How
do i read these images in python from each folders and create single
training set. As i read online we need to resize all images into same size
to input in tensorflow. I am using windows machine so not be able to



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use OpenCV3 also.

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Please help me out.



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for this purpose, as it directly
classes with respect to it

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<https://www.analyticsvidhya.com/blog/2016/10/introduction-to-implementing-neural-networks-using-tensorflow/#comment-129466>

(<https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS101+2018T2>)



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through the nn network from
used. Why are we not using an

I reducing after a point
an you sum up or point
is.

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 June 15, 2017 at 7:29 pm (<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-129999>)

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to predict classes (if its a
predict continuous values (if its
would use an appropriate
cation problem, you generally
n, whereas in regression you

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<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-129999>

([#comment-129999">https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS101+2018T2#comment-129999](https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS101+2018T2))



ture of what you are doing in

ask, 'label'].values

my own dataset, it will be

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(<https://datahack.analyticsvidhya.com/contest/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-131708>)

challe/?utm_source=AVStickyBanner2&

utm_medium=display&utm_campaign=pandasproblem

utm_medium=pandasproblem&utm_campaign=pandasproblem&utm_version=0.19.2/generated

[/pandas.DataFrame.ix.html](http://pandas.pydata.org/pandas-docs/version/0.19.2/generated/pandas.DataFrame.ix.html) (<http://pandas.pydata.org/pandas-docs/version/0.19.2/generated/pandas.DataFrame.ix.html>)

[/pandas.DataFrame.ix.html](http://pandas.pydata.org/pandas-docs/version/0.19.2/generated/pandas.DataFrame.ix.html)) and 'label' represents the label

column that is that target variable. Here I am simply trying to

extract the respective targets for the batches

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 June 9, 2017 at 4:12 pm (<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-130548>)

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performing, i had encountered
size: logits_size=[118,3]

ze going incorrect and it was
d batch size as per the

(https://trainings.analyticsvidhya.com/courses/input_hm_units/)

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 June 15, 2017 at 7:23 pm (<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-130548>)

The number of elements in batch_x and batch_y should
match. In your problem, one is 128 and the other 118. Both
should be the same

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That was a very informative post as I am just getting started with TF.



elaborate this line of code:

```
ages', 'train', img_name)
```

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<https://www.analyticsvidhya.com/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-131709>)

the file path. So instead of
 (<https://trainings.analyticsvidhya.com/courses>... , I am
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(<https://datahack.analyticsvidhya.com/contest/practice/problem/intel-scene-classification-challenge/>?utm_source=AV%20Sticky%20Banner&utm_medium=display&utm_campaign=intelproblem)

```
tf.train.AdamOptimizer(learning_rate=learning_rate).minimize(cost)
```

3

```
4 init = tf.initialize_all_variables()
```

/home/sayak/anaconda3/envs/py27/lib/python2.7/site-packages/tensorflow/python/ops/nn_ops.pyc in

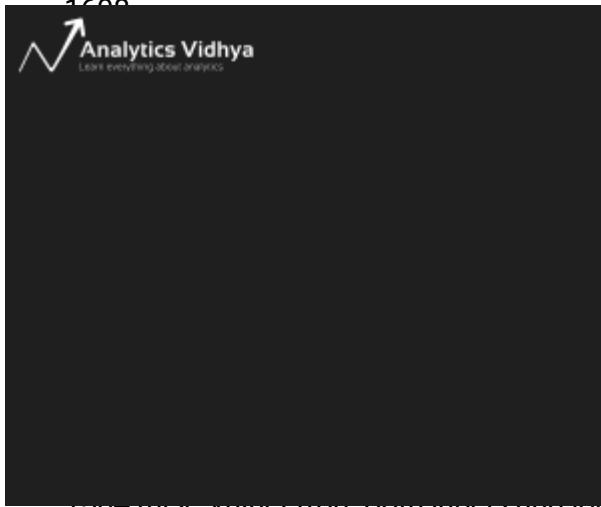


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softmax_cross_entropy_with_logits(_sentinel, labels, logits, dim, name)
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1605
1606 _ensure_xent_args("softmax_cross_entropy_with_logits", _sentinel,
->1607 [CONTACT](https://www.analyticsvidhya.com/contact/)(https://www.analyticsvidhya.com/contact/)
1608



when the labels do not sum to 1.

```

python2.7/site-packages
ensure_xent_args(name,
"
"
ts=..., ...)" % name)
```

1609 PraiseValueError("Both labels and logits must be provided.")
(<https://trainings.analyticsvidhya.com/courses>

/course-v1:AnalyticsVidhya+DS101+2018T2> softmax_with_logits` with named



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[networks-using-tensorflow](#)
[/#comment-131710](#)

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(<https://datahack.analyticsvidhya.com/contest>) softmax_cross_entropy_with_logits(logit
/practice-problem-intel-scene-classification-
labels=y))
challe/?utm_source=AVStickyBanner2&
utm_medium=display2&
utm_campaign=intelproblem)

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July 27, 2017 at 2:49 pm (<https://www.analyticsvidhya.com/blog/2016>
/10/an-introduction-to-implementing-neural-networks-using-tensorflow
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Kishore



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pm
[dhya.com/blog/2016/10/introducing-neural-networks-using-tensorflow/#comment-34524](https://www.analyticsvidhya.com/blog/2016/10/introducing-neural-networks-using-tensorflow/#comment-34524))

a multi layer perceptron

(<https://trainings.analyticsvidhya.com/courses/course-v1:AnalyticsVidhya+DS101+2018T2>)

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cal. My problem is I can't

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August 4, 2017 at 1:31 am (<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-133631>)

Problem fixed. Thank you.



FAIZAN SHAIKH

August 17, 2017 at 5:05 pm

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Glad it worked out



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learning, neural network and

through GPU, and i went

(<https://trainings.analyticsvidhya.com/courses> across this blog and i must
/courses/14-an-intro-to-ds101-in-2018-being beginner) where i found all

right from start, till



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3 pm

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VIJAY

November 7, 2017 at 6:23 pm

(<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-142585>)

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<https://www.analyticsvidhya.com/introduction-to-implementing-neural-networks-using-tensorflow/#comment-144018>

document that i could refer to

on.

on.

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November 16, 2017 at 6:07 pm

(<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-144018>)

check out the official
tation for this

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[comment-144018](#)

(<https://datahack.analyticsvidhya.com/contest/practice-problem/intel-scene-classification/>)

CAN Anyone tell why this code is not producing paper output
challe/?utm_source=AVStickyBanner2&
import tensorflow as tf
utm_medium=display&
x_tf.placeholder(tf.float32,shape=[None,1])
utm_campaign=intelproblem
y_tf.placeholder(tf.float32,shape=[None,1])

W=tf.Variable(tf.zeros([1,1]))

b=tf.Variable(tf.zeros([1]))

y=tf.matmul(x,W)+b

init=tf.global_variables_initializer()

cross_entropy=tf.nn.softmax_cross_entropy_with_logits(labels=y,logits=

train_step=tf.train.GradientDescentOptimizer(0.6).minimize(cross_entrop



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```

sess=tf.InteractiveSession()
sess.run(init)
for e in range(100):
    sess.run(contact,(tf.argmax(y_,1),
                      prediction,tf.float32)))

```



```

),tf.arg_max(y_,1))
(prediction,tf.float32))
6]])))

```

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5 pm

[dhya.com/blog/2016/10/an-](https://trainings.analyticsvidhya.com/courses/containing-neural-networks-using-tensorflow/#comment-139462)

(<https://trainings.analyticsvidhya.com/courses/containing-neural-networks-using-tensorflow/#comment-139462>)

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ors/indentation errors; What

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Please this problem, I don't know why other people did not face it.

([https://datahack.analyticsvidhya.com/contest/practice-problem-intel-scene-classification-challenge/?utm_source=AVStickyBanner2&utm_medium=display&utm_path=os.path.join\(data_dir, 'Train', 'Images', 'test', img_name\)&utm_campaign=intelproblem](https://datahack.analyticsvidhya.com/contest/practice-problem-intel-scene-classification-challenge/?utm_source=AVStickyBanner2&utm_medium=display&utm_path=os.path.join(data_dir, 'Train', 'Images', 'test', img_name)&utm_campaign=intelproblem))

```

temp = []
for img_name in test.filename:
    img = Image.open(img_name)
    img = np.array(img)
    img = img.astype('float32')
    temp.append(img)

test_x = np.stack(temp)

```

KHAN [Reply](#)

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Error OutPut



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AttributeError Traceback (most recent call last)

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AttributeError: 'DataFrame' object has no attribute 'filename'
/course-v1:AnalyticsVidhya+DS101+2018T2

(https://datahack.analyticsvidhya.com/contest/introduction-to-implementing-neural-networks-using-

(https://datahack.analyticsvidhya.com/contest/tensorflow/#comment-139463)

/practice-problem-intel-scene-classification-

challe/?utm_source=AV/StickyBanner2&

utm_medium=display2&

utm_campaign=intelproblem)

You can find the dataset here:

<https://datahack.analyticsvidhya.com/contest/practice->[problem-identify-the-digits/](#)<https://datahack.analyticsvidhya.com/contest/practice->[problem-identify-the-digits/](#)

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 October 13, 2017 at 1:46 pm

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sing-tensorflow/#comment-139469)

the quick reply.

the training data from the provided in the comments to fine according to the above contains the filename field and we train.csv file, but as for as concerned it does not contain the above code, we are going file to store it in python array

for which I am getting an error. I have gone (<https://trainings.analyticsvidhya.com/courses/through-the-link-you-provided-but-I-am-getting-error-in-my-code>)

set and I am unable to get you can provide me the thankful.

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November 16, 2017 at 6:16 pm

[\(https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-144019\)](https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-144019)

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Maybe the dataset that you downloaded might be corrupted. Please check the dataset again

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NOUFAL

December 7, 2017 at 11:07 am (<https://www.analyticsvidhya.com/blog/2016/10/an-introduction-to-implementing-neural-networks-using-tensorflow/#comment-146591>)



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hello sir,

I am rewriting this code to train another set of data which is image dataset of 20,000. But the image size varying in every image so I am unable to set the training and testing set. You can suggest a



H [Reply](#)

3 pm

<https://www.analyticsvidhya.com/blog/2016/10/introductory-tutorial-implementing-neural-networks-using-tensorflow/> (46613)

ges to be of the same size

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FAIZAN SHAIKH

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March 27, 2018 at 4:12 pm (<https://www.analyticsvidhya.com/blog/2016/10/introductory-tutorial-implementing-neural-networks-using-tensorflow/#comment-152205>)

Hi – You would have to register to the hackathon to access the dataset



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