Document for users

Before using this script, you need to know the following points:
1. This script is based on Ubuntu python 3.x, if you are using an older Python version, you need to update it.

2. The output of this script is based on a Python library called PrettyTable, you can install it in your terminal like this: pip3 install prettytable

3. You need to copy the code below in your CNN code, after the initialization part and before the training part:

```
###################################
import script
image_for_structure={x: data.test.images[:1]}
script.func(sess,output,image_for_structure)
###################################
```

· You have to give 3 parameters to the script: one IMAGE(or the IMAGES you want to test) from your test image group; OUTPUT of the last layer; your SESSION(sess)

· ATTENTION: This script works well in the code without the declarations of layer functions. But if you used the 'DEF' to write the layers, you have to give NAMES to the layers, it's easier for the script to find the structure of your network.

· Make sure the script and your code are in the same path or you'd better add the path in the 'import' part.

4. After running your code, you can find the output in memory_stats.txt.

5. Output Explanation:
The output of this script is a four-column table.

· The first column is 'Layer name', it will show you four main kinds of layers (convolution layer, pooling layer, activation function, full connected layer(FC)) in your network in order.

· The second column is 'Shapes(size of matrix for calculation)', only convolution layers and FC layers have values. It shows the parameters of these layers and their interpretations.

· The third column is 'Input Requested Memory & Explanation' and the fourth column is 'Output Requested Memory & Explanation' . They show the compositions of input and output of the layers, they also give the explanations to explain what constitutes the memory consumption for input and the physical meanings of the output.

· The first row in the table is always the information of your input image(s)

· The last line below the table shows the total memory consumption.

6. This script still has many shortcomings. If you want to improve this script, just do it, I have already written the comments for all variables in the code.

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