

# A Superficial Introduction to Deep Learning

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PrincetonPy

# What this is not:

- A python tutorial
- A pandas tutorial
- A Data Science tutorial
- A github tutorial

# What this is:

- An introductory Theano tutorial
- An introductory Deep Learning tutorial
- A change to make a community

# What is Deep Learning?

## Deep Learning



What society thinks I do



What my friends think I do



What other computer scientists think I do



What mathematicians think I do

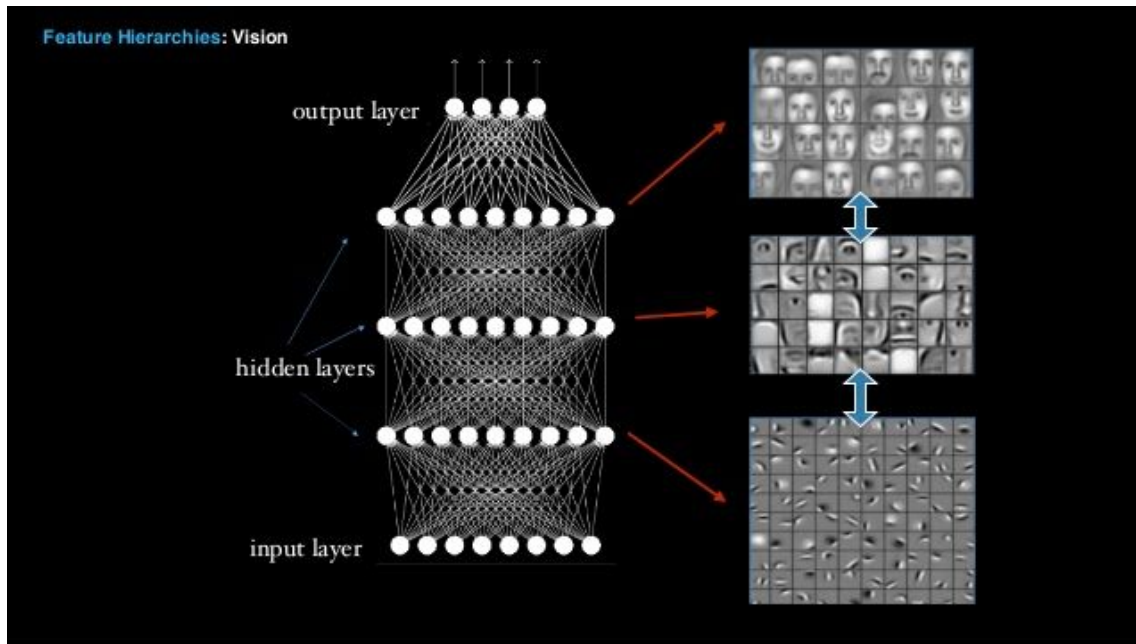


What I think I do

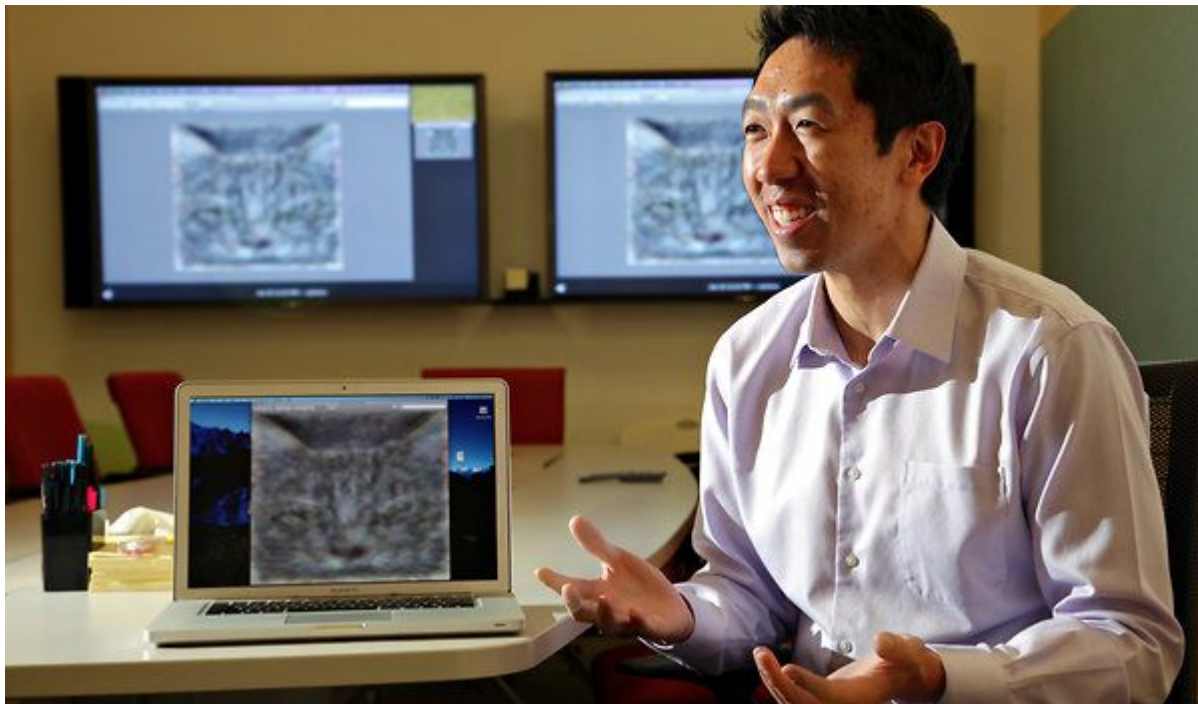
```
from theano import *
```

What I actually do

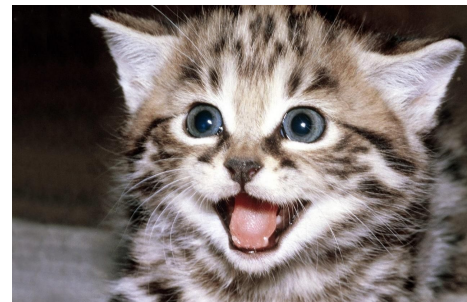
# What is Deep Learning?



# Why Deep Learning?



Andrew Ng and kittens!!!



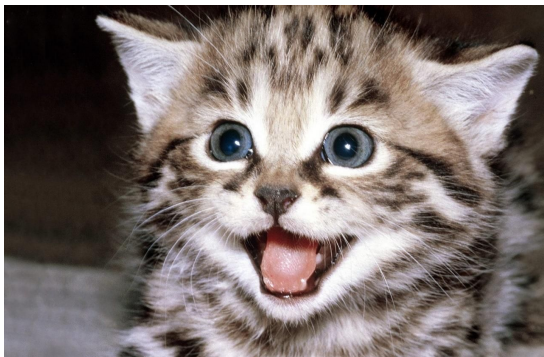
16,000 Processors!!!  
1 Billion Connections!!!  
10 million images from Youtube!!!

Result: Kittens!!!



# Why do we need it?

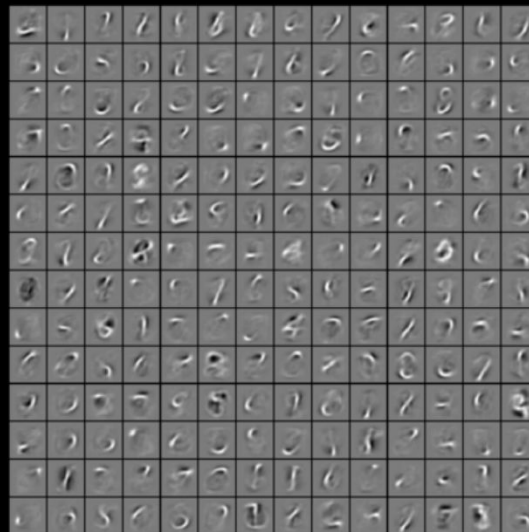
Data!!!!



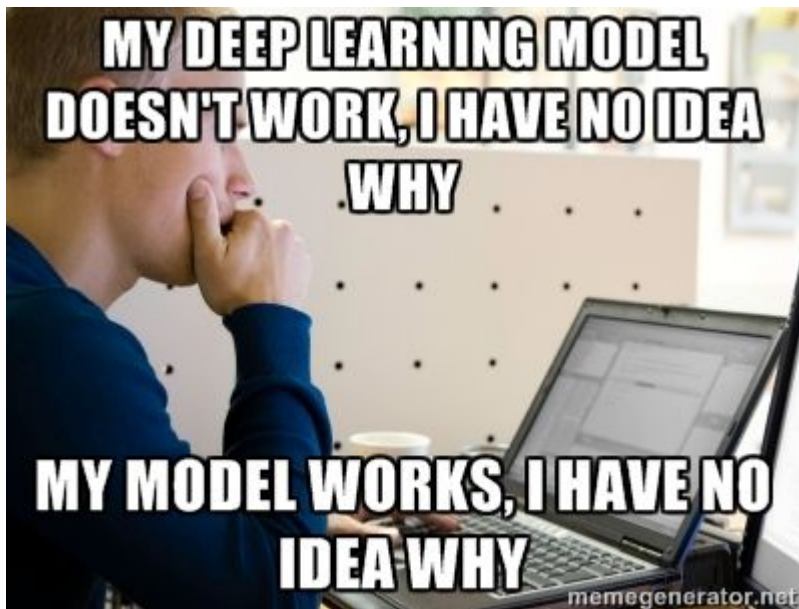
# Our Task

## It Learns Features

504192131435  
361728694091  
124327386905  
607618793985  
933074980941  
446045670017  
163021179026  
783904674680  
783157171163  
029311049200  
202718641634  
391338547742



# How to Implement Our Model



H2O  
Pylearn2  
Lasagne  
Caffe  
Theano  
Torch

.....



# Our Data

[illegible]

[illegible]

# Let's Get Started