

The First Week Report

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Abstract

This is my first week to learn Deep Learning. I mainly learned the courses of the first week, second week and third week in Neural Network and Deep Learning.

1 Some Frequently Used Concept

- *Neural Network*
- *Logistic Regression*

- *Sigmoid Function:* $\sigma(z^{(i)}) = \frac{1}{1+e^{-z^{(i)}}}$

- *Lost (error) Function:* $L(\hat{y}^{(i)}, y^{(i)}) = -(y^{(i)} \log(\hat{y}^{(i)}) + (1-y^{(i)}) \log(1 - \hat{y}^{(i)}))$

- *Cost Function:* $J(w, b) = \frac{1}{m} \sum_{i=1}^m L(\hat{y}^{(i)}, y^{(i)})$

- *Gradient Decent*
- *Vectorization*
- *Broadcasting*
- *Activation Functions*

2 Learning Summary

To be honest, it's hard for me follow the teacher. Deep Learning courses requir much knowledge of matrix which is used so flexible in the videos that I was confused most of the time.

Despite all of this, I still gained a lot from this week's study experience. For example, I had a rough idea of what is a neural network which seems to be a arcane and obscure object. And I also learned how to use vectorization to avoid using for-loop in order to improve the program's operating efficiency, which is widely used in Python programming.

Apart from Deep Learning, I also learned how to use Git, Github and Latex, which made so amazed. Git is just like what we usall call "the regret medicine". It can roll-back at any time I like. And Latex is also a fantastic software which can be used to typeset your passage perfectly. When I install the Latex, I had a knowledge of expansion of Ubuntu by using GParted, which took me a whole night to carry out.

The above is all I want to say. There are still a great many things waiting for me to fulfill. I'll keep on studying.