The First Week Report

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2018.5.27

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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.

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