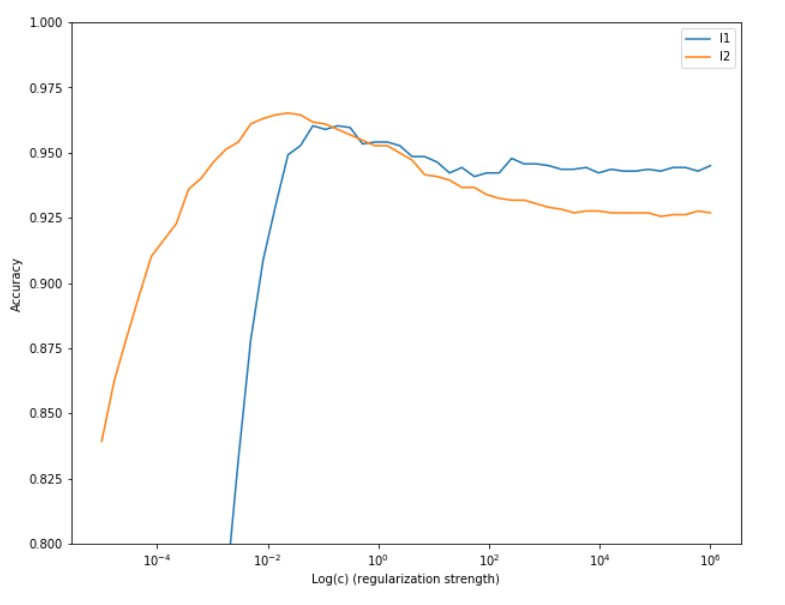
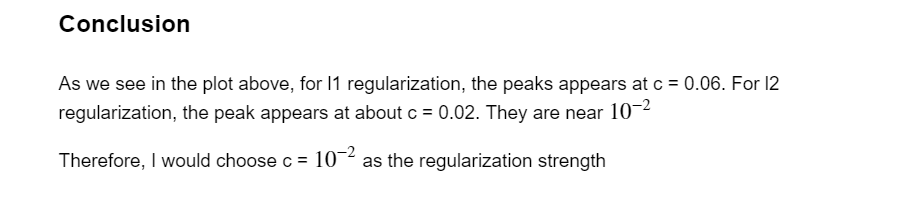
**Part 1**

Accuracy:

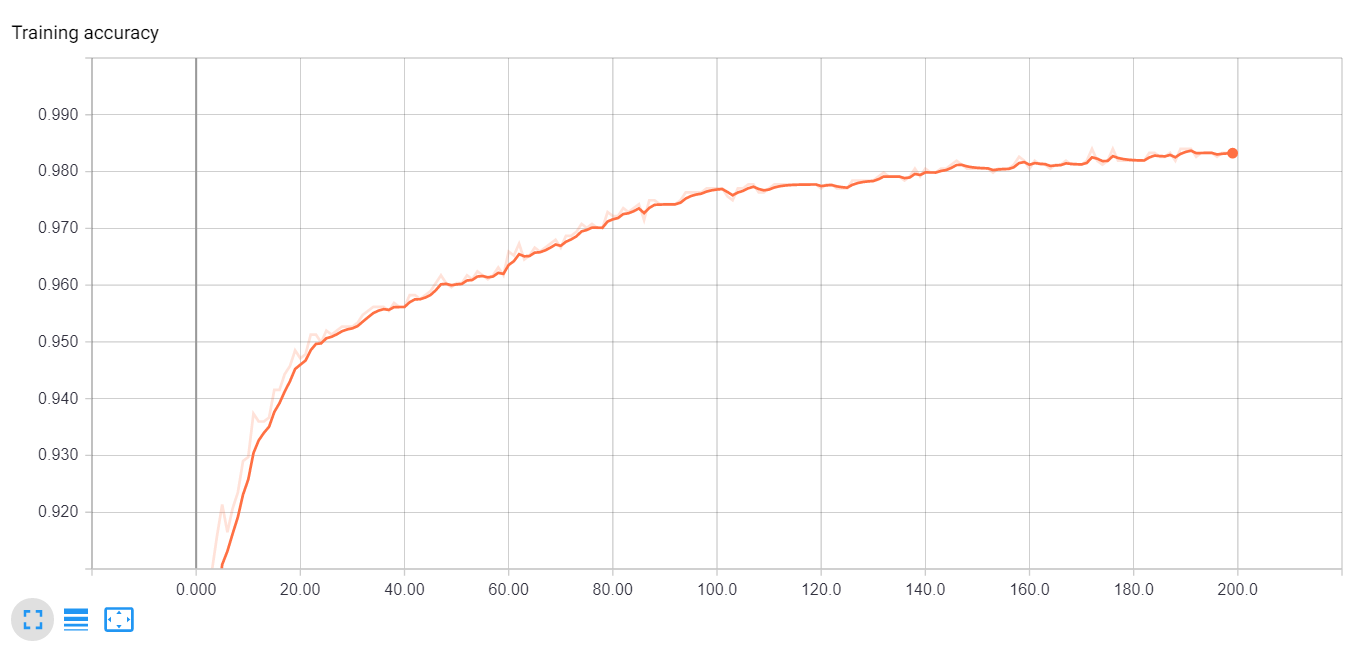




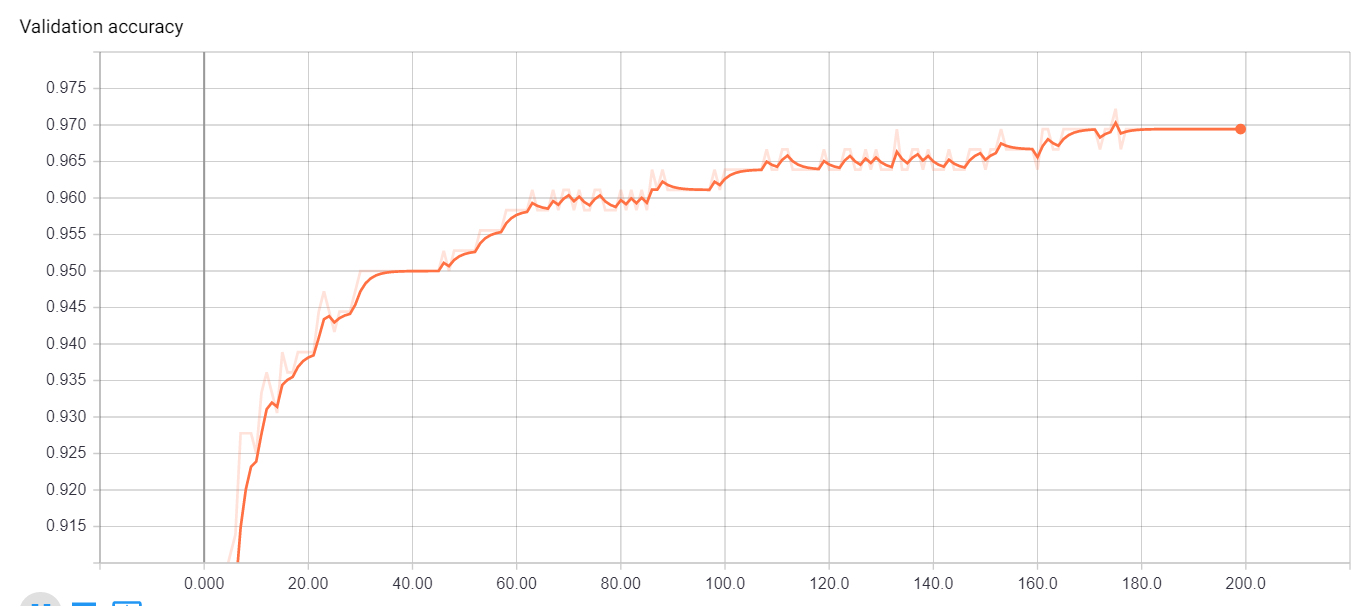
**Part 2**

**2.1 Softmax regression**

**Training accuracy**

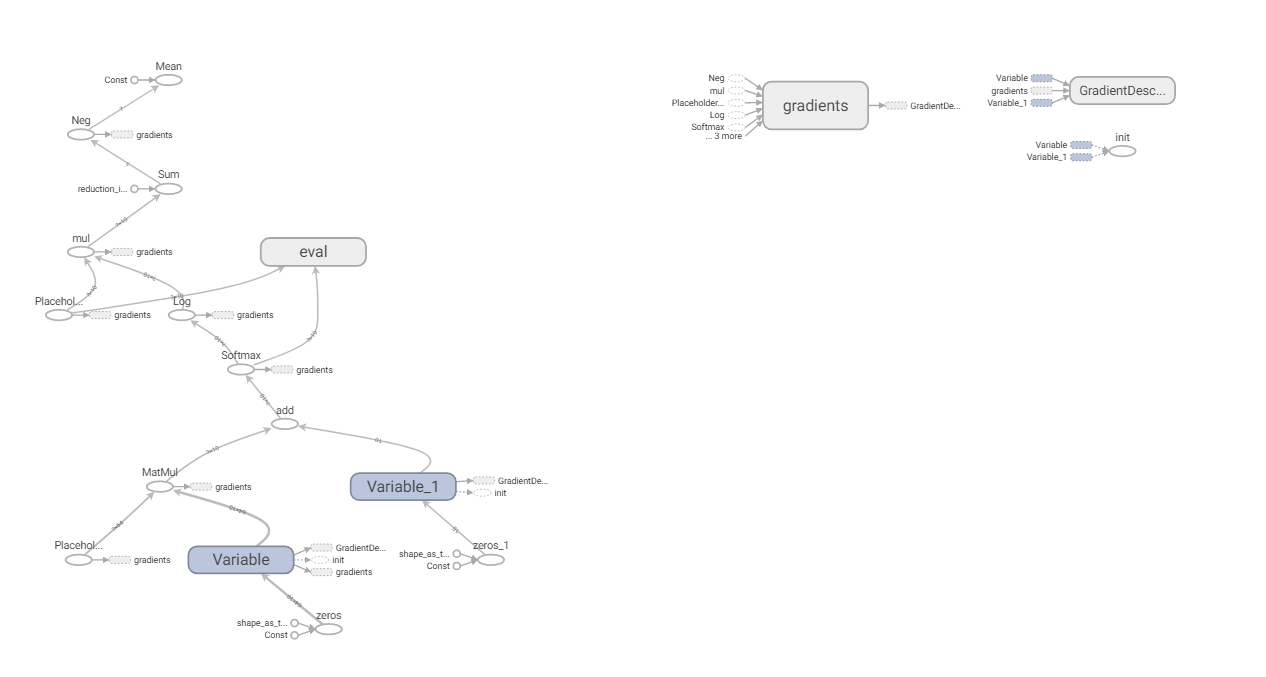


**Validation accuracy**



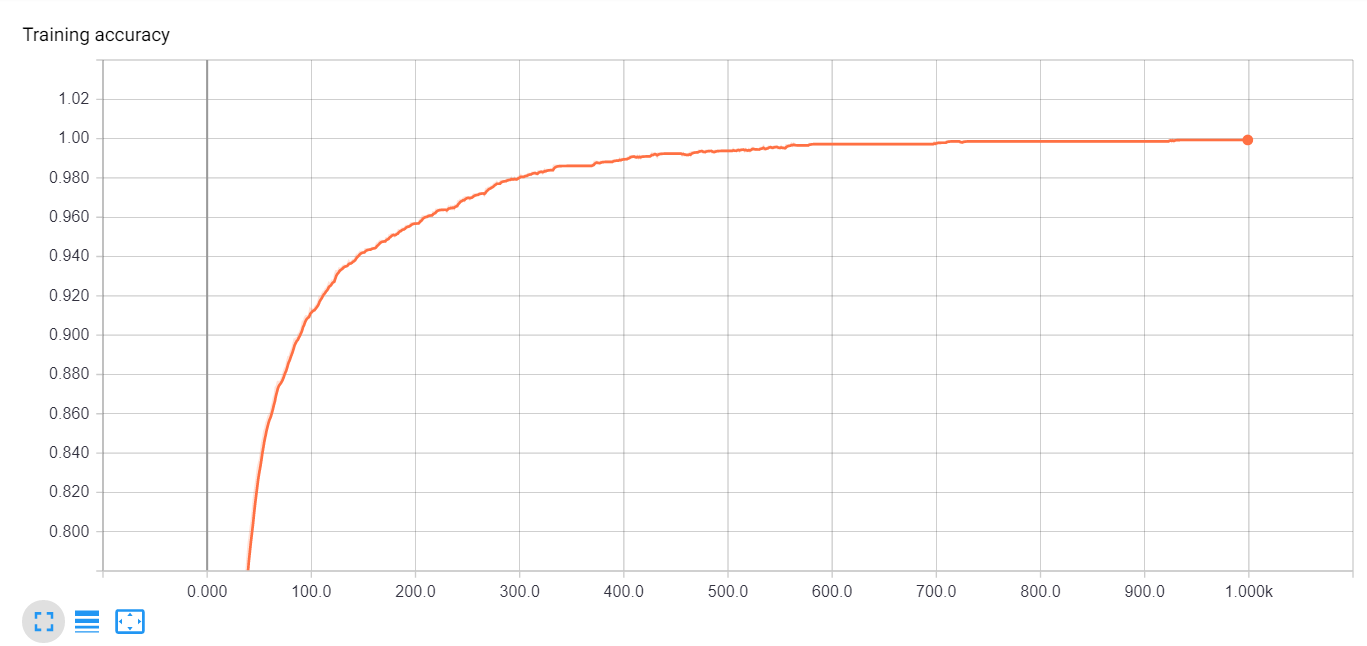
As we see, the training accuracy reaches 0.983 and the validation accuracy reaches 0.97

**Neural Net Graph**

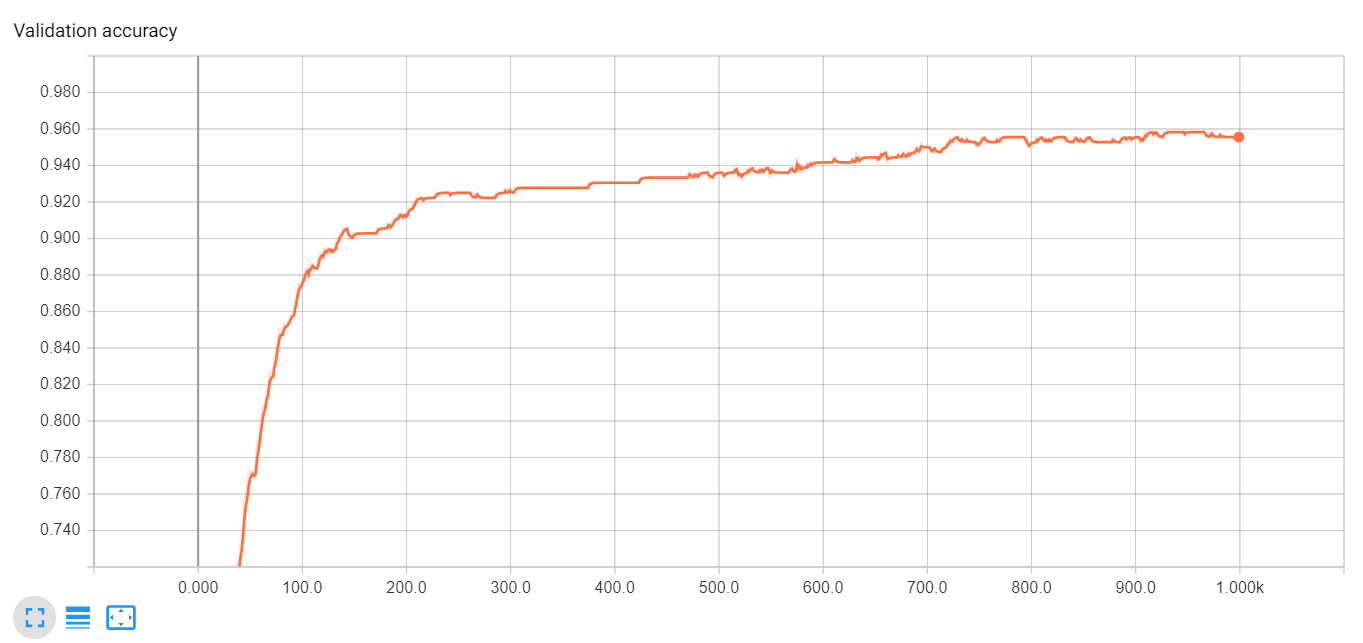


**2.2 Dense Neural Net**

**Training accuracy**

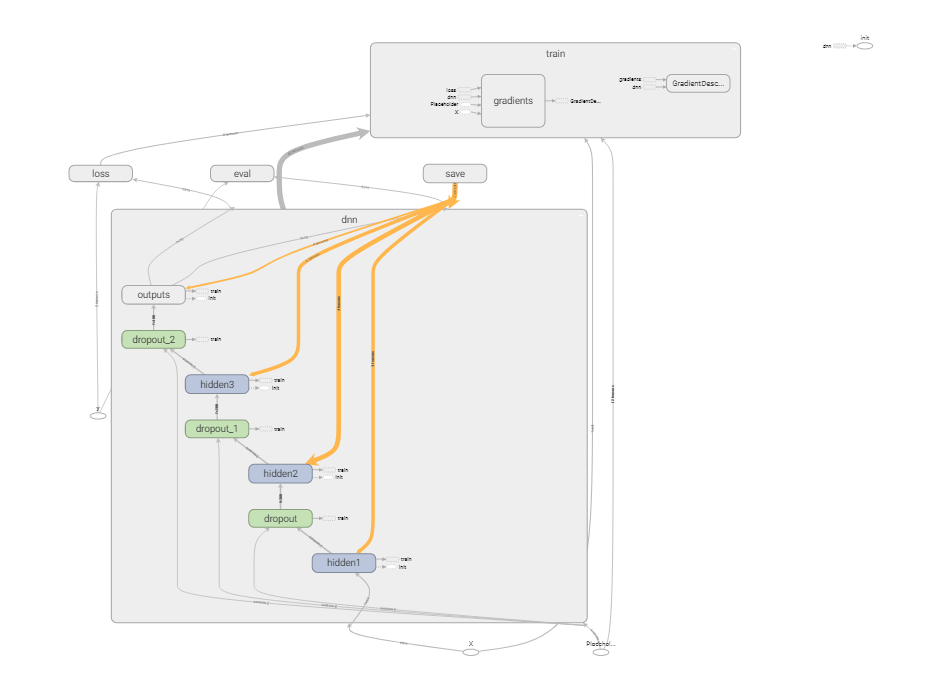


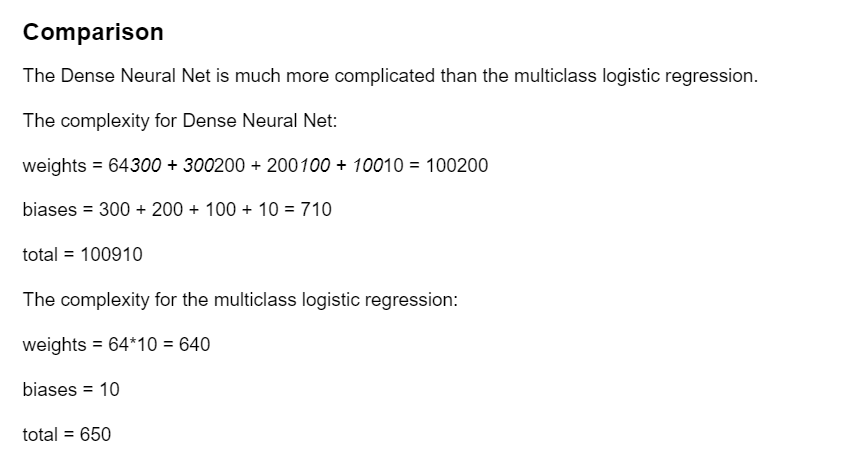
**Validation accuracy**



As we see, since we have 3 layers and the number of epoch are 1000, the training accuracy reaches 1, the validation accuracy reaches 0.96

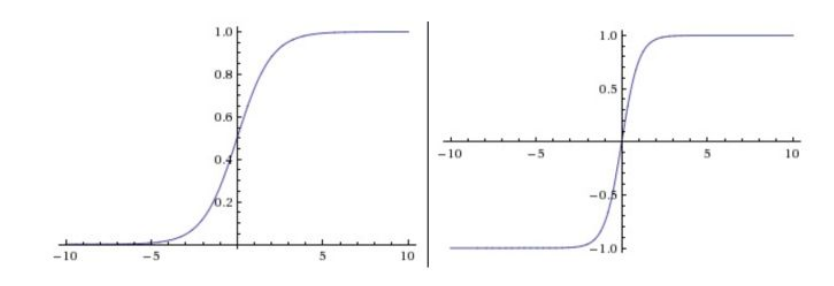
**Neural Net Graph**

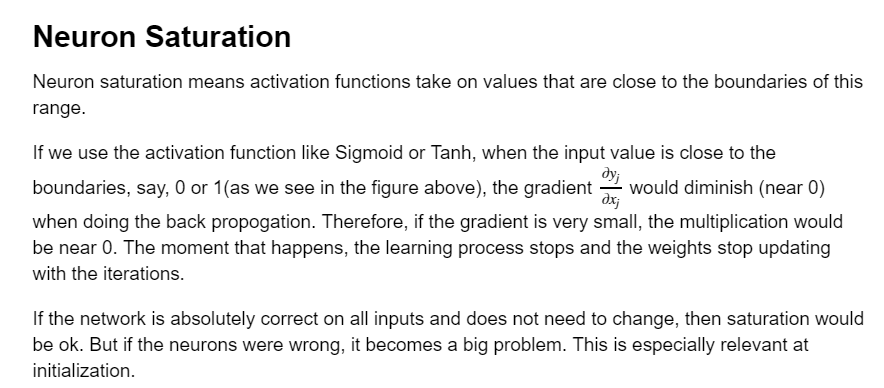


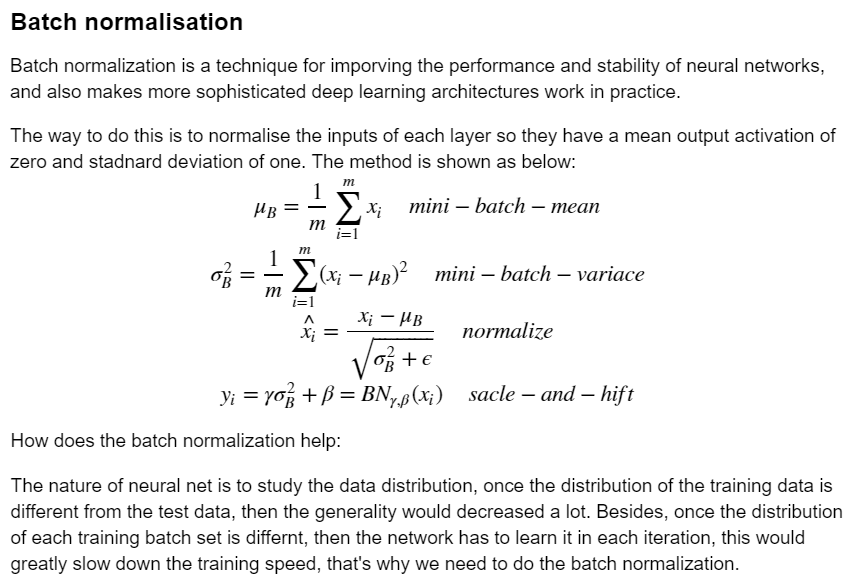


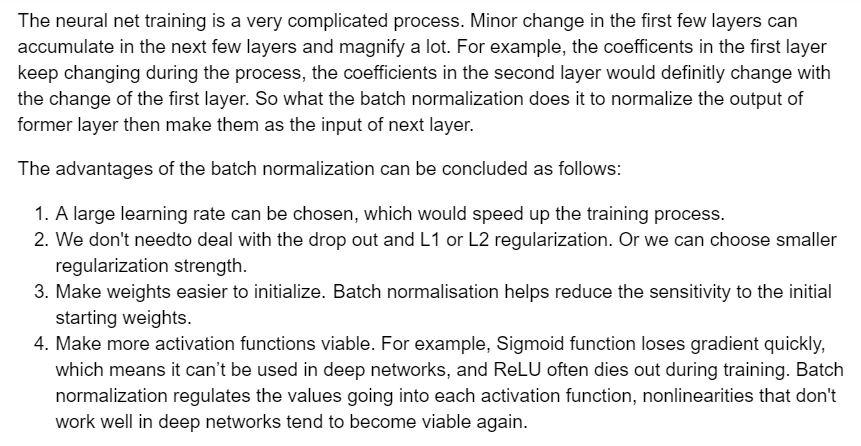
**Part 3**

**3.1**

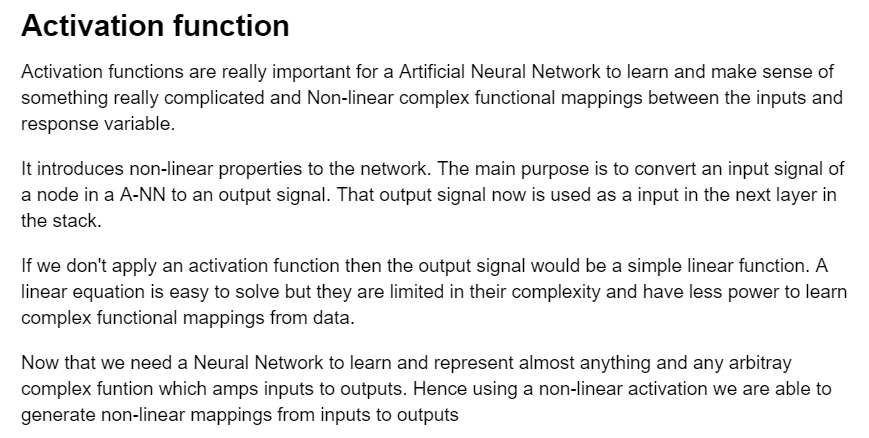


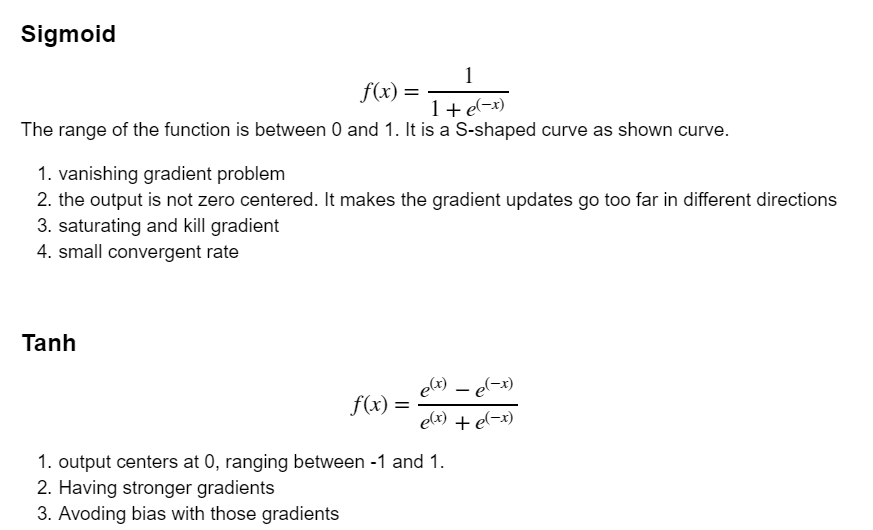


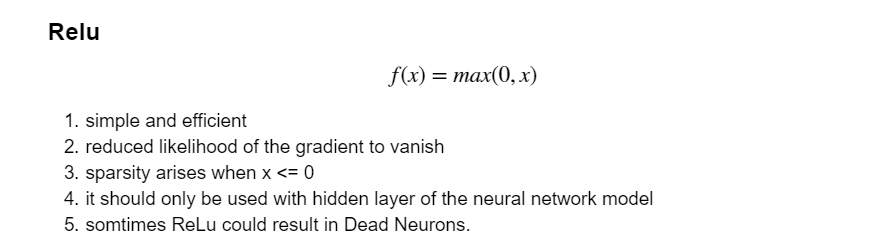




**3.2**

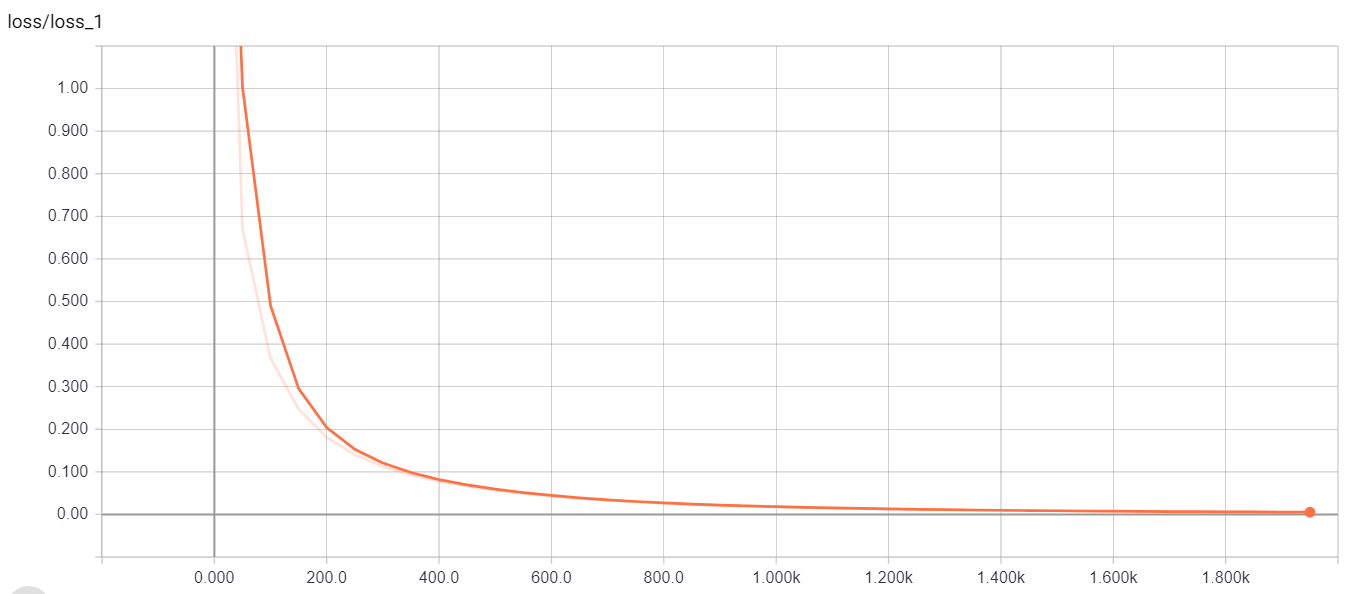




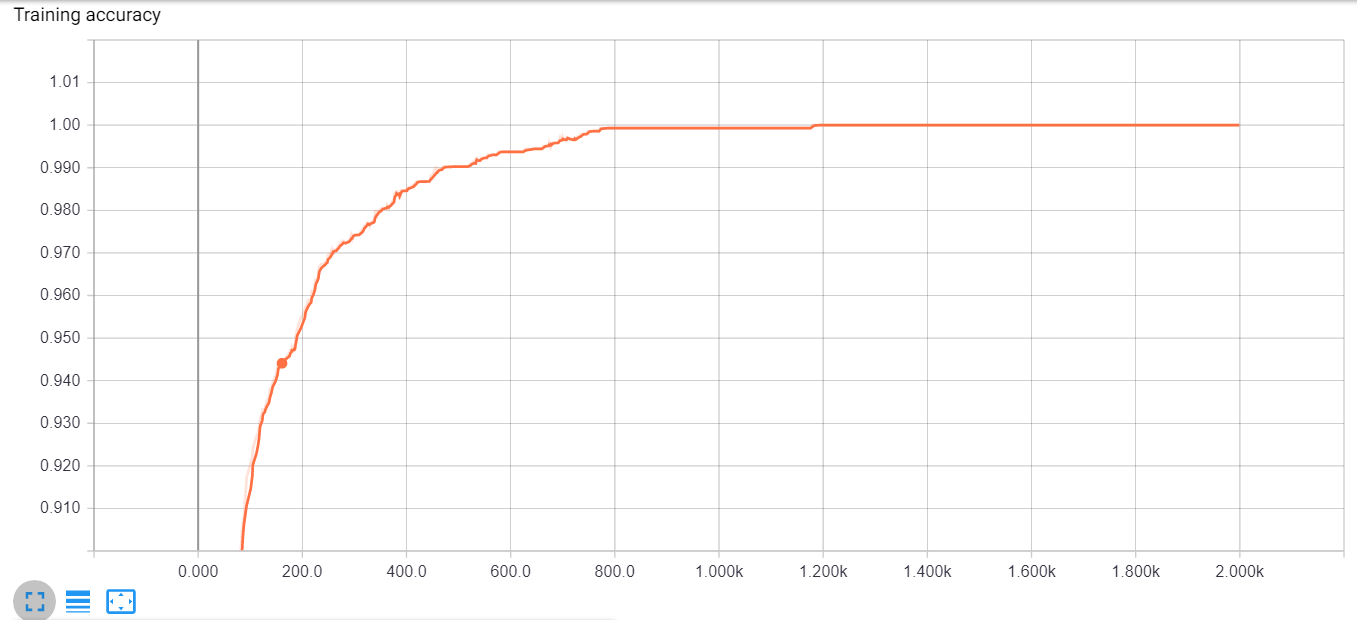


**3.3**

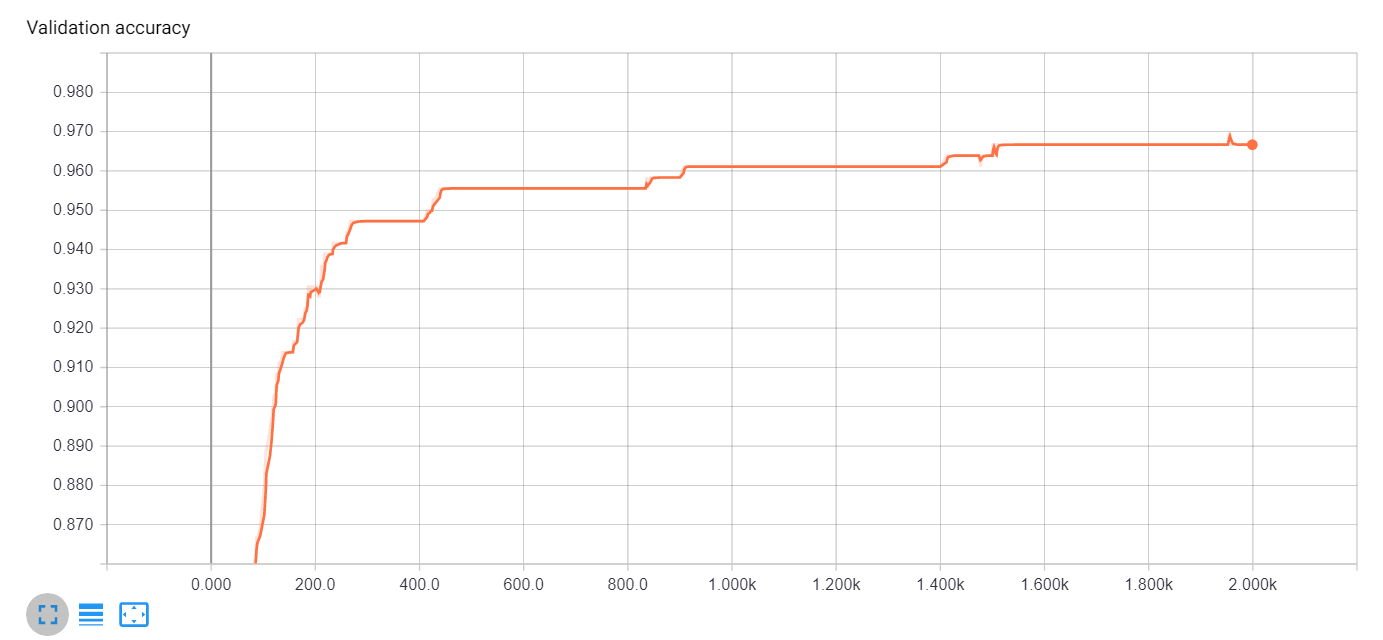
**Training loss**



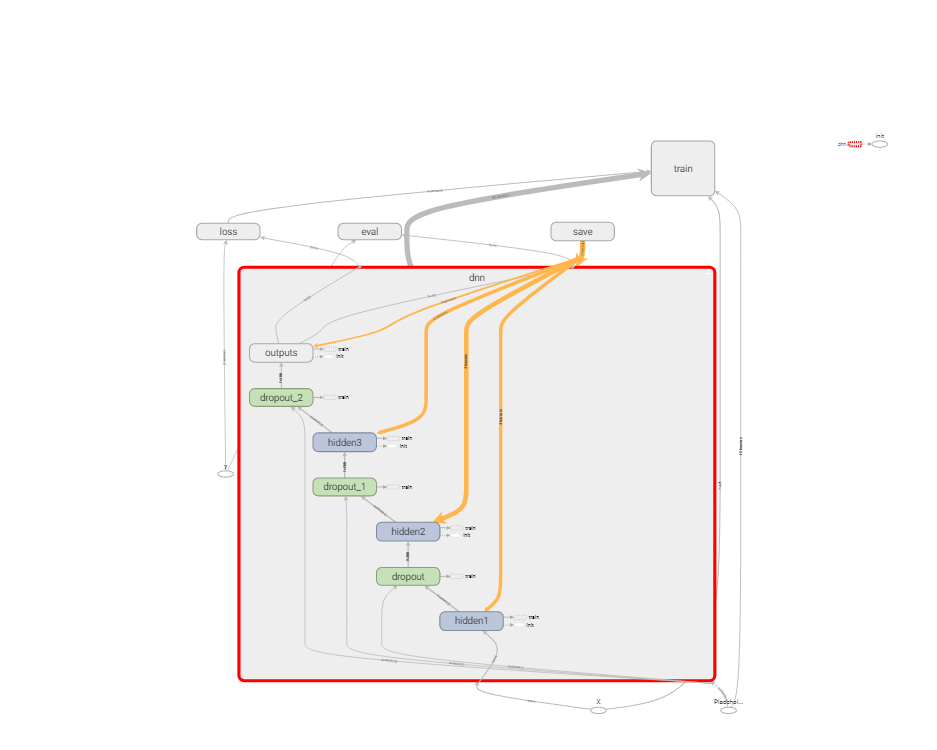
**Training accuracy**



**Validation accuracy**



**Neural Net Graph**



**Training accuracy: batch normalization vs without batch normalization**

