

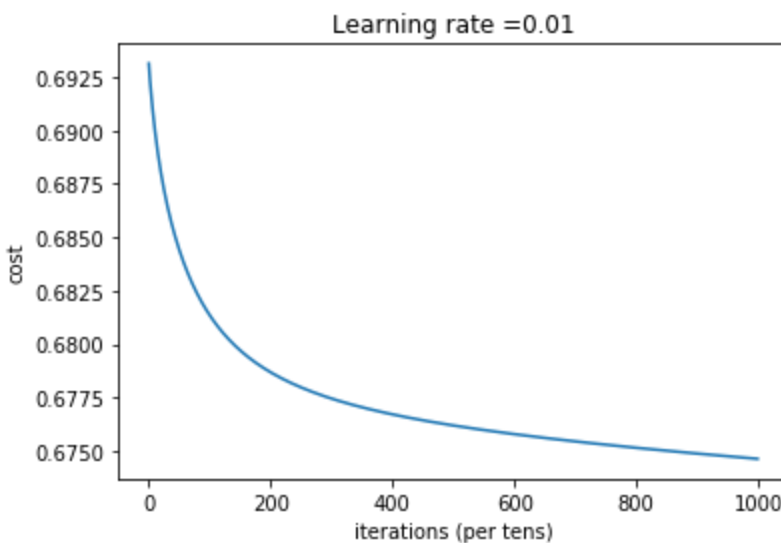
Group Details :

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Train - Test split was done as 80% - 20%.

### **Neural Network with 0 hidden layers (Logistic Regression)**

#### **Plot of cost vs iterations**



#### **Confusion Matrix**

train accuracy: 58.73 %

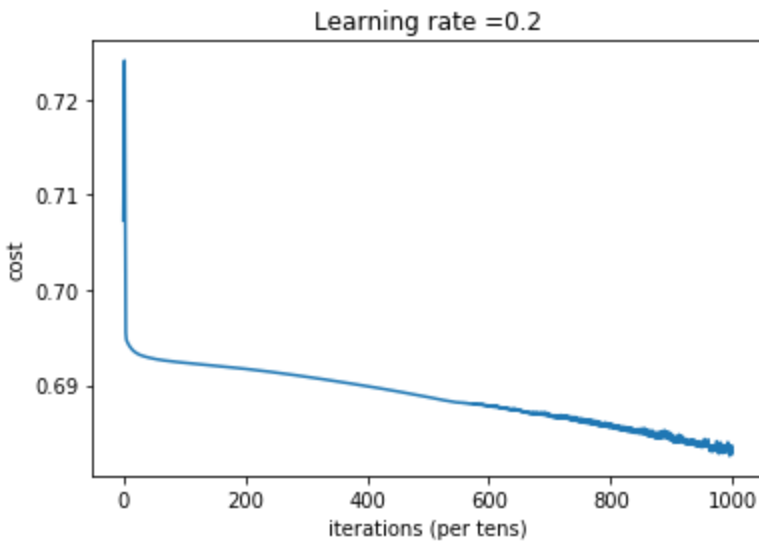
|        | 0 (cat) | 1 (dog) |
|--------|---------|---------|
| 0(cat) | 5680    | 4284    |
| 1(dog) | 3970    | 6066    |

test accuracy: 56.62 %

|        | 0 (cat) | 1 (dog) |
|--------|---------|---------|
| 0(cat) | 1354    | 1182    |
| 1(dog) | 987     | 1477    |

### Neural Network with 2 hidden layers (Configuration : [2500,100,20,1])

#### Plot of cost vs iterations



#### Confusion Matrix

train accuracy: 55.6149 %

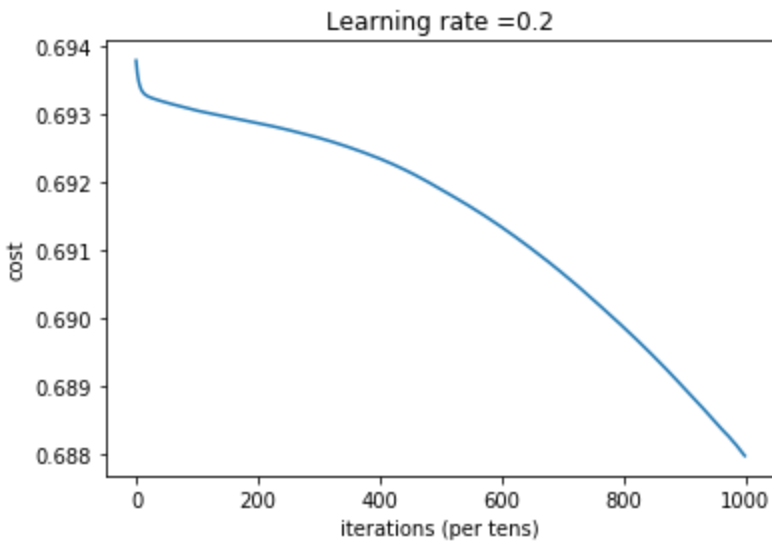
|        | 0 (cat) | 1 (dog) |
|--------|---------|---------|
| 0(cat) | 7407    | 2557    |
| 1(dog) | 3716    | 6320    |

test accuracy: 50.2 %

|        | 0 (cat) | 1 (dog) |
|--------|---------|---------|
| 0(cat) | 1833    | 637     |
| 1(dog) | 611     | 1853    |

### **Neural Network with 3 hidden layers (Configuration : [2500,100,20,5,1])**

#### **Plot of cost vs iterations**



#### **Confusion Matrix**

train accuracy: 50.515 %

|        | 0 (cat) | 1 (dog) |
|--------|---------|---------|
| 0(cat) | 5428    | 4536    |
| 1(dog) | 5361    | 4675    |

test accuracy: 62.34 %

|        | 0 (cat) | 1 (dog) |
|--------|---------|---------|
| 0(cat) | 1576    | 960     |
| 1(dog) | 923     | 1541    |