**Hyper Parameter Tuning:**

1. **Varying Learning Rate**

**Experiment 1:**

Training Data = 2000

epochs = 1000

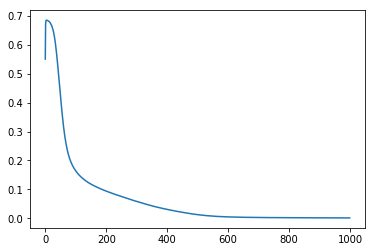
batch\_size = 50

window\_size = 3

embeddings\_size = 5

Learning\_rate = 0.01

Accuracy = 78%



**Experiment 2:**

Training Data = 2000

epochs = 1000

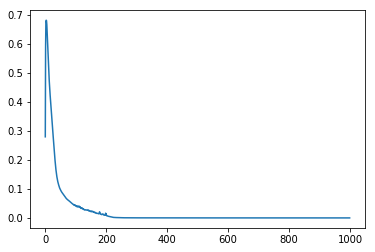
batch\_size = 50

window\_size = 3

embeddings\_size = 5

learning\_rate = 0.05

Accuracy = 80.5%



**Experiment 3:**

Training Data = 2000

epochs = 1000

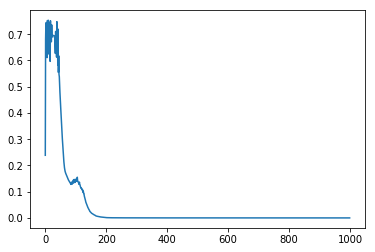
batch\_size = 50

window\_size = 3

embeddings\_size = 5

learning\_rate = 0.1

Accuracy = 78.5%



**Experiment 4:**

Training Data = 2000

epochs = 1000

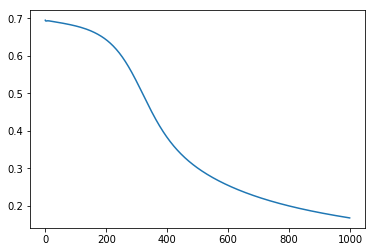
batch\_size = 50

window\_size = 3

embeddings\_size = 5

learning\_rate = 0.001

Accuracy = 72%



**Experiment 5:**

window\_size = 3

embeddings\_size = 10

batch\_size = 50

epochs = 1000

lr = 0.2

batch\_size = 50

Accuracy = 76

**2) Varying Epoches**

**Experiment 1:**

window\_size = 3

embeddings\_size = 10

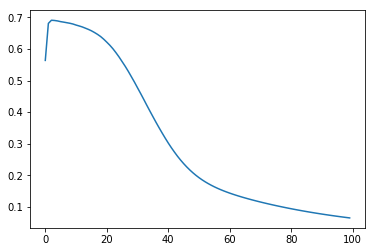
batch\_size = 50

epochs = 100

lr = 0.02

batch\_size = 50

Accuracy = 69%

****

**Experiment 2:**

window\_size = 3

embeddings\_size = 10

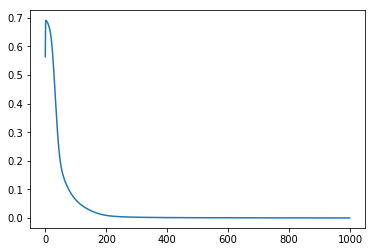
batch\_size = 50

epochs = 1000

lr = 0.02

batch\_size = 50

Accuracy = 80.5%

****

**Experiment 3:**

window\_size = 3

embeddings\_size = 10

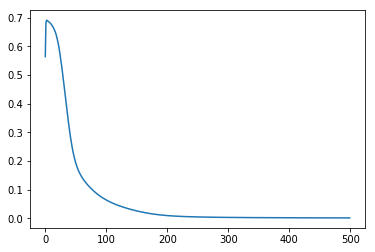
batch\_size = 50

epochs = 500

lr = 0.02

batch\_size = 50

Accuracy = 80%



**Experiment 4:**

window\_size = 3

embeddings\_size = 10

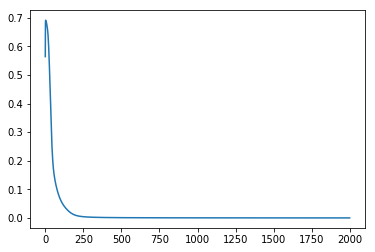
batch\_size = 50

epochs = 2000

lr = 0.02

batch\_size = 50

Accuracy = 78



**Experiment 5:**

window\_size = 3

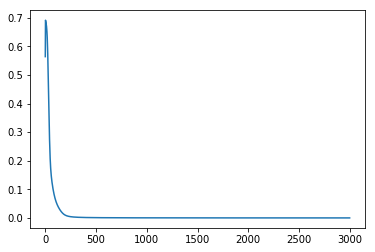
embeddings\_size = 10

batch\_size = 50

epochs = 3000

lr = 0.02

batch\_size = 50



3)

**Experiment 1:**

window\_size = 1

embeddings\_size = 10

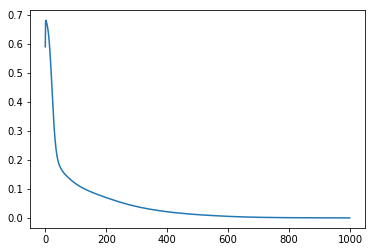
batch\_size = 50

epochs = 1000

lr = 0.2

batch\_size = 50

Accuracy = 86.5



**Experiment 2:**

window\_size = 3

embeddings\_size = 10

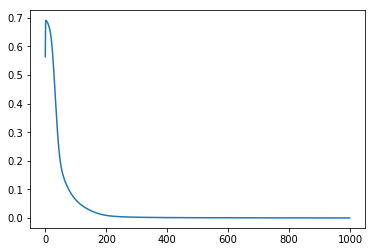
batch\_size = 50

epochs = 1000

lr = 0.2

batch\_size = 50

Accuracy = 76

****

**Experiment 3:**

window\_size = 6

embeddings\_size = 10

batch\_size = 50

epochs = 1000

lr = 0.2

batch\_size = 50

Accuracy = 60.5

