Music Generation with LSTM

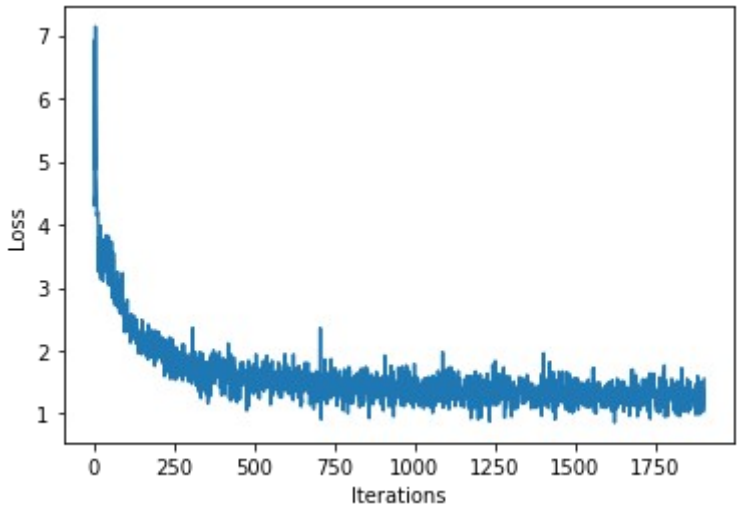
Experiment – 1:

```
### Hyperparameter setting and optimization ###

# Optimization parameters:
num_training_iterations = 2000 # Increase this to train longer
batch_size = 2 # Experiment between 1 and 64
seq_length = 50 # Experiment between 50 and 500
learning_rate = 5e-2 # Experiment between 1e-5 and 1e-1

# Model parameters:
vocab_size = len(vocab)
embedding_dim = 256
rnn_units = 500 # Experiment between 1 and 2048

# Checkpoint location:
checkpoint_dir = './training_checkpoints'
checkpoint_prefix = os.path.join(checkpoint_dir, "my_ckpt")
```



Result:

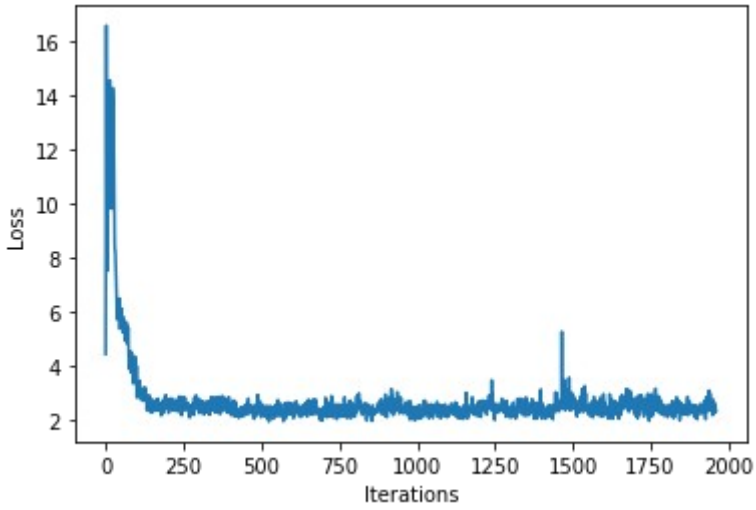
Found 9 songs in text

Experiment – 2:

```
### Hyperparameter setting and optimization ###

# Optimization parameters:
num_training_iterations = 2000 # Increase this to train longer
batch_size = 10 # Experiment between 1 and 64
seq_length = 100 # Experiment between 50 and 500
learning_rate = 5e-2 # Experiment between 1e-5 and 1e-1
```

```
# Model parameters:
vocab_size = len(vocab)
embedding_dim = 256
rnn_units = 1024 # Experiment between 1 and 2048
```



Result

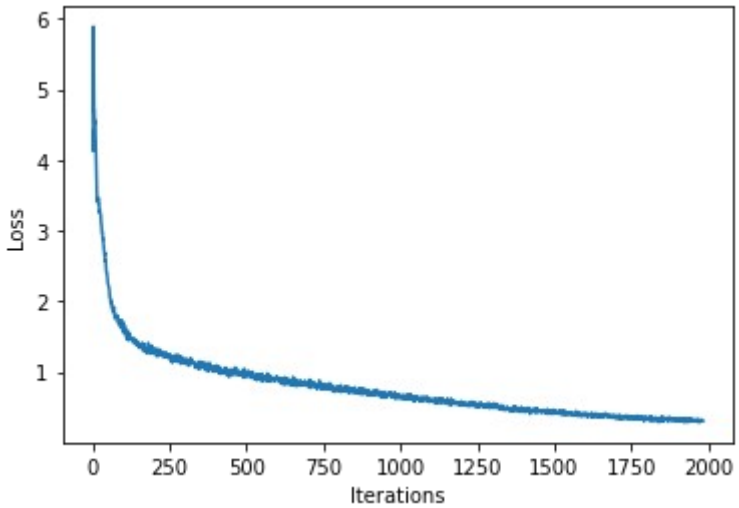
```
Found 9 songs in text
```

Experiment 3:

```
### Hyperparameter setting and optimization ###

# Optimization parameters:
num_training_iterations = 2000 # Increase this to train longer
batch_size = 32 # Experiment between 1 and 64
seq_length = 200 # Experiment between 50 and 500
learning_rate = 5e-3 # Experiment between 1e-5 and 1e-1

# Model parameters:
vocab_size = len(vocab)
embedding_dim = 256
rnn_units = 1024 # Experiment between 1 and 2048
```



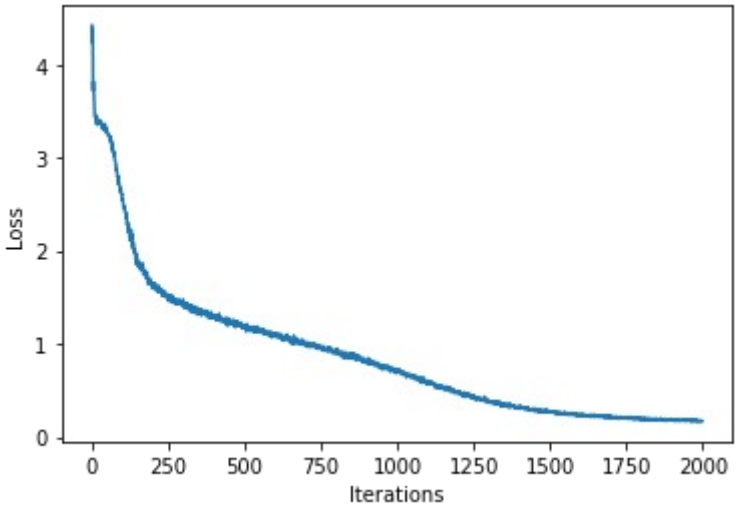
Result:
```
Found 4 songs in text
```

Experiment 4:

```
## Hyperparameter setting and optimization ###

# Optimization parameters:
num_training_iterations = 2000 # Increase this to train longer
batch_size = 64 # Experiment between 1 and 64
seq_length = 300 # Experiment between 50 and 500
learning_rate = 5e-4 # Experiment between 1e-5 and 1e-1

# Model parameters:
vocab_size = len(vocab)
embedding_dim = 256
rnn_units = 1500 #1024 # Experiment between 1 and 2048
```



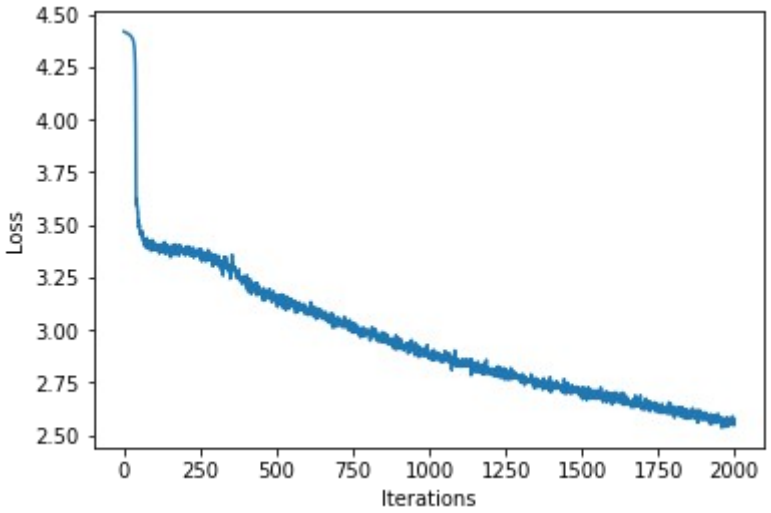
Result:
```
Found 0 songs in text
```

Experiment 5:

```
### Hyperparameter setting and optimization ###

# Optimization parameters:
num_training_iterations = 2000 # Increase this to train longer
batch_size = 64 # Experiment between 1 and 64
seq_length = 400 # Experiment between 50 and 500
learning_rate = 1e-5 # Experiment between 1e-5 and 1e-1

# Model parameters:
vocab_size = len(vocab)
embedding_dim = 256
rnn_units = 2048 # Experiment between 1 and 2048
```



Result:

```
Found 0 songs in text
```