

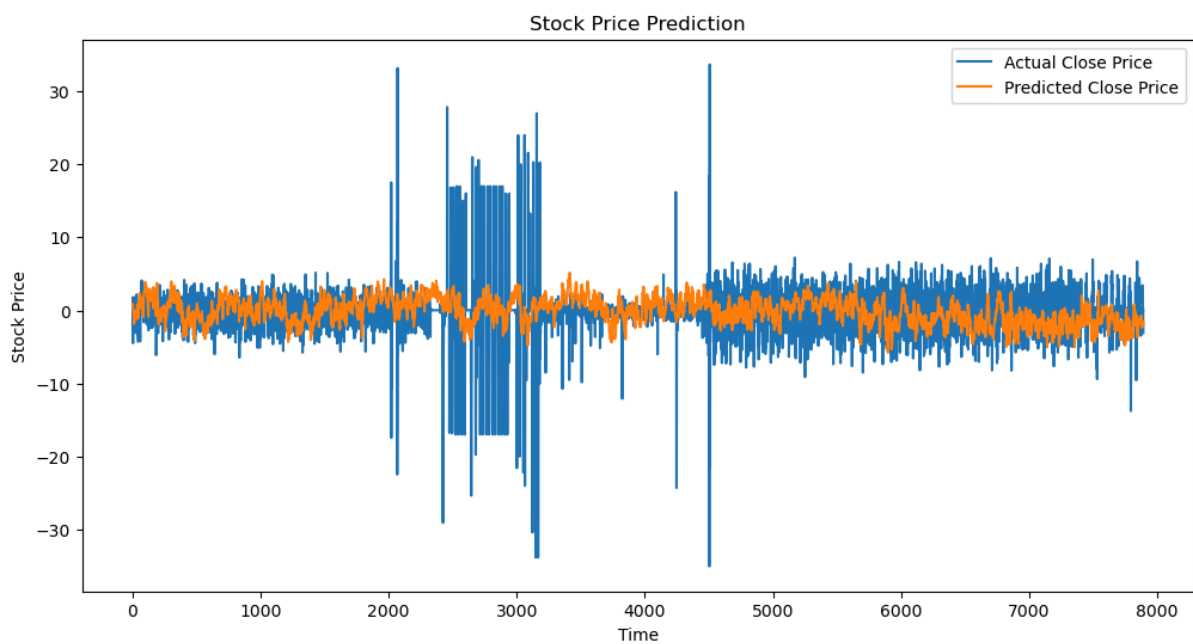
# ESO\_LSTM\_reverse\_norm

1트 (최초)

```
# hyper parameters
seq_length = 50
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.09505910812564561**



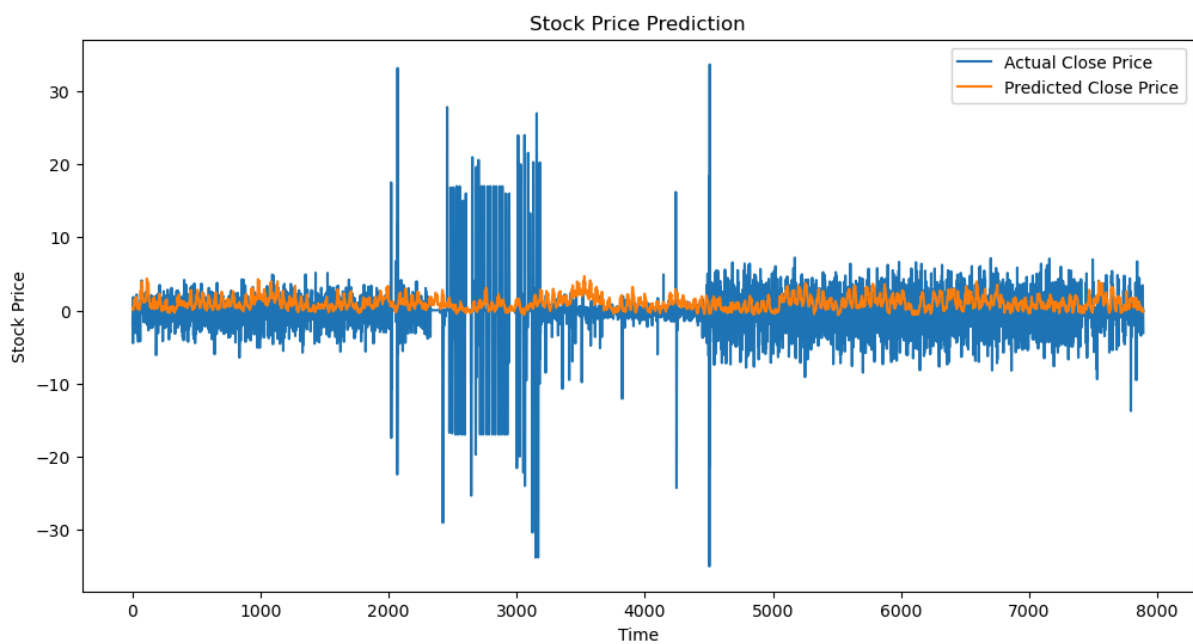
# ESO\_LSTM\_reverse\_norm

## 2≡ (Hidden Dimension)

```
# hyper parameters
seq_length = 50
data_dim = 200 # Exclude the close price column
hidden_dim = 50
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 1.2120335607886035**



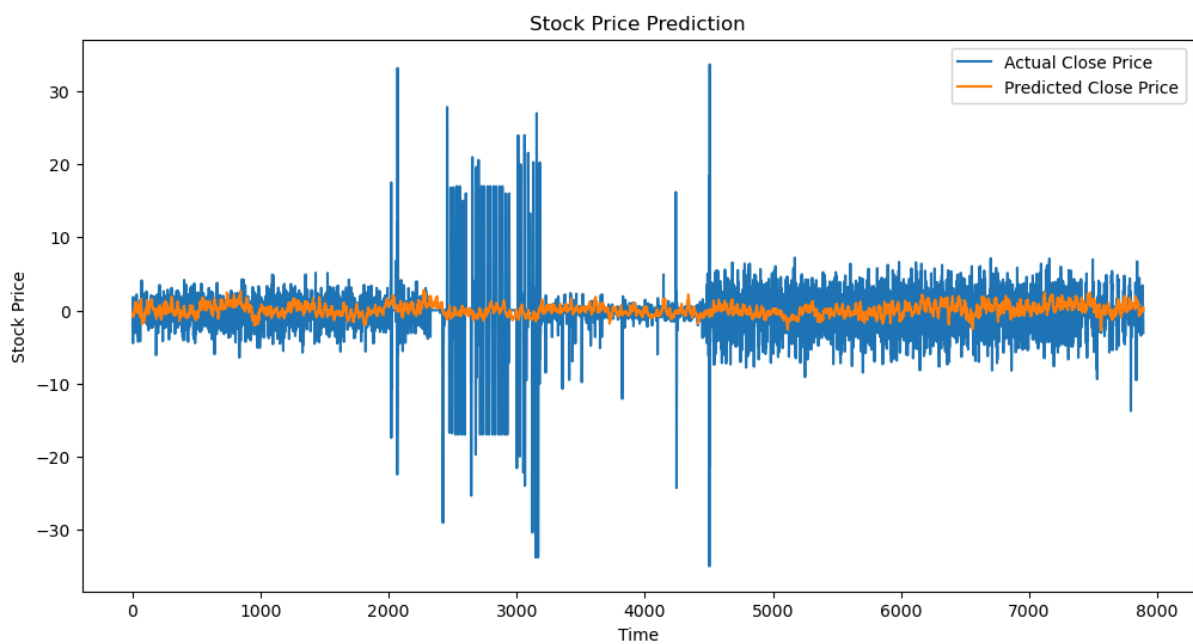
# ESO\_LSTM\_reverse\_norm

## 3≡ (Hidden Dimension)

```
# hyper parameters
seq_length = 50
data_dim = 200 # Exclude the close price column
hidden_dim = 20
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.2508890481821148**



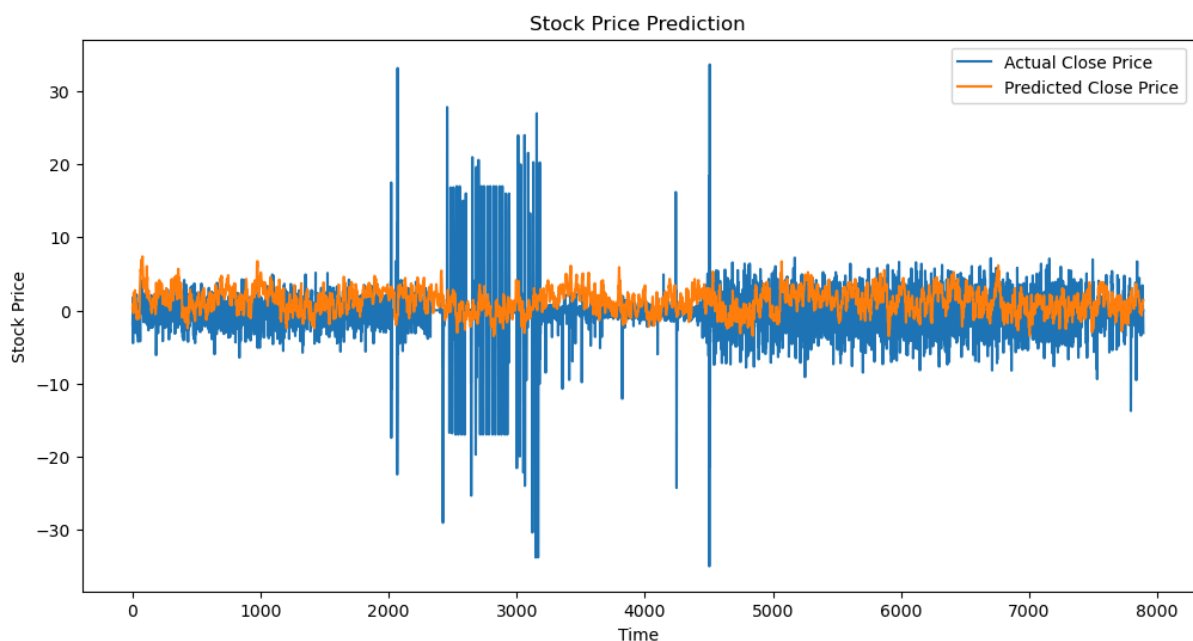
# ESO\_LSTM\_reverse\_norm

4 $\Xi$  (Hidden Dimension)

```
# hyper parameters
seq_length = 50
data_dim = 200 # Exclude the close price column
hidden_dim = 25
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 1.4539276812774102**



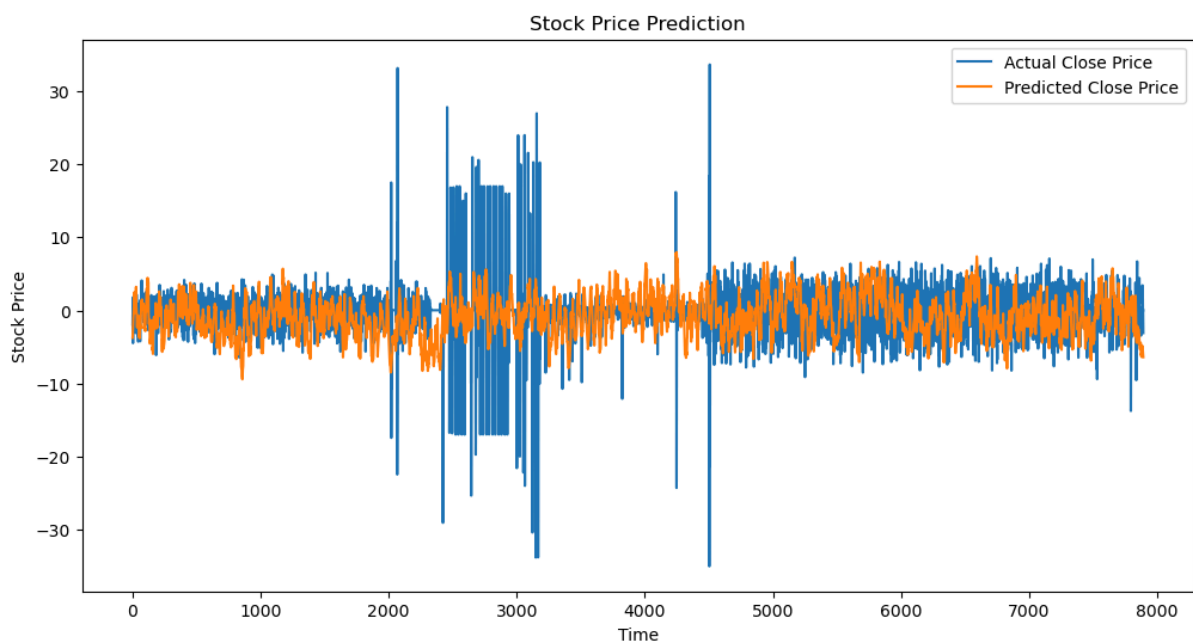
# ESO\_LSTM\_reverse\_norm

5≡ (Hidden Dimension)

```
# hyper parameters
seq_length = 50
data_dim = 200 # Exclude the close price column
hidden_dim = 35
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -0.695938060708995**



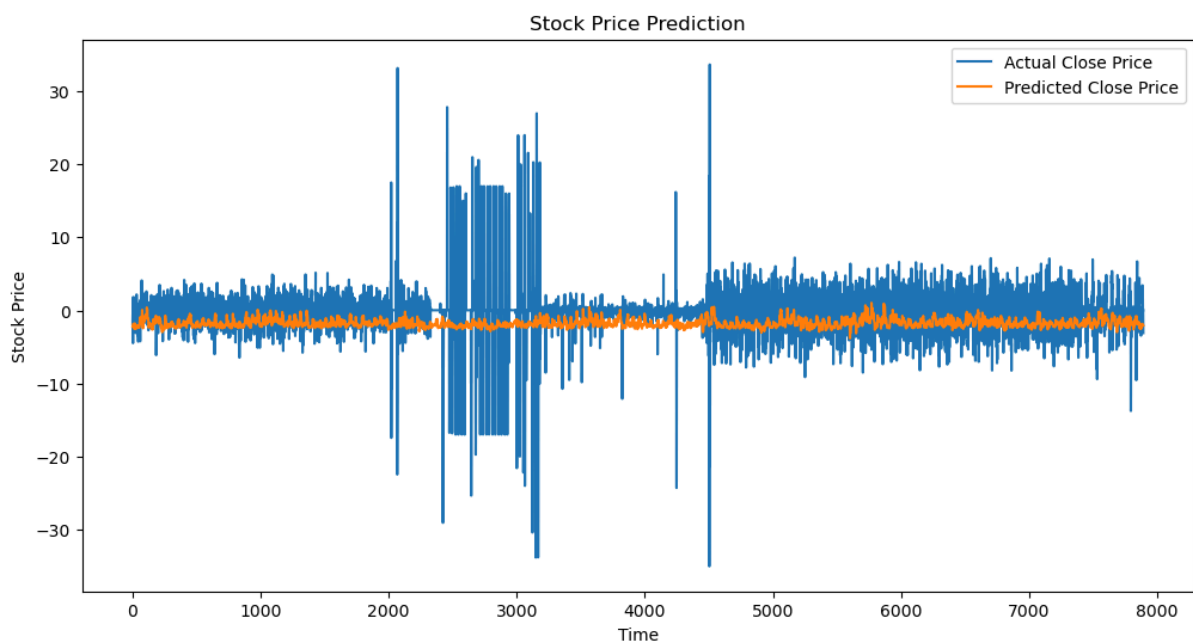
# ESO\_LSTM\_reverse\_norm

6≡ (Hidden Dimension)

```
# hyper parameters
seq_length = 50
data_dim = 200 # Exclude the close price column
hidden_dim = 32
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -1.5654471312950433**



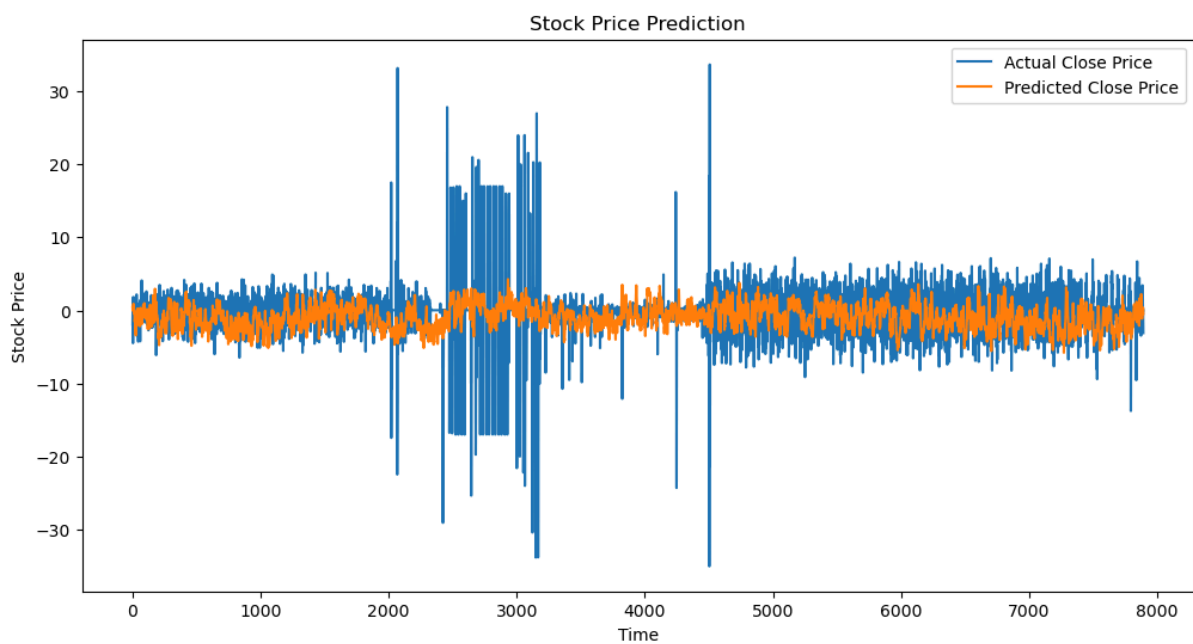
# ESO\_LSTM\_reverse\_norm

## 7≡ (Hidden Dimension)

```
# hyper parameters
seq_length = 50
data_dim = 200 # Exclude the close price column
hidden_dim = 28
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -0.7633961455041117**



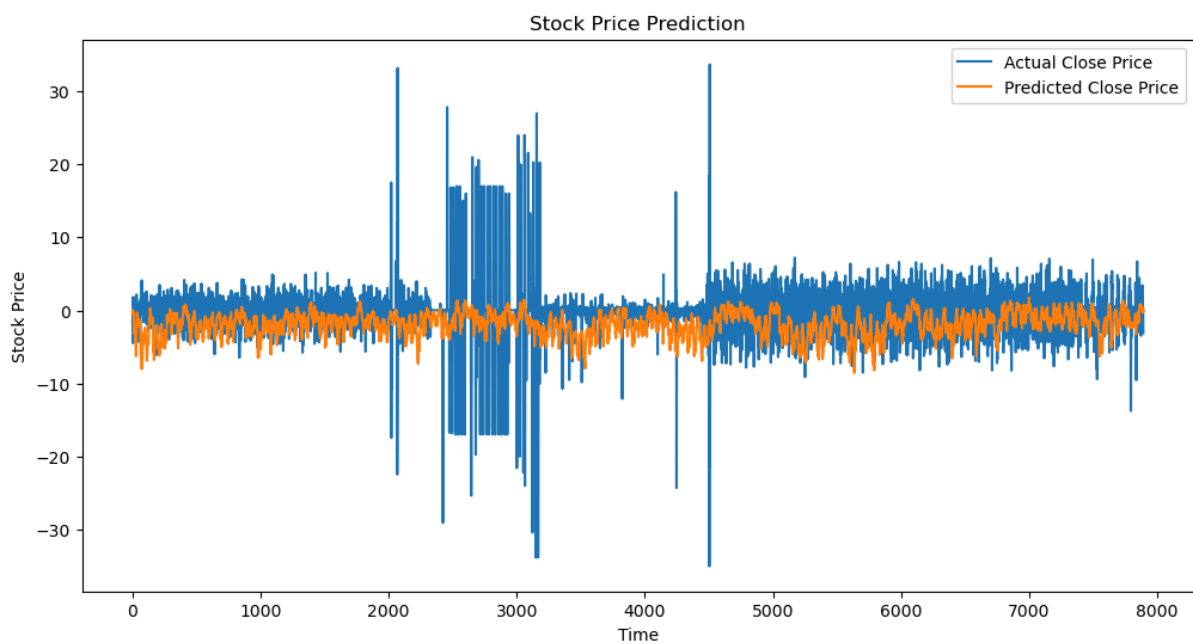
# ESO\_LSTM\_reverse\_norm

8≡ (Hidden Dimension)

```
# hyper parameters
seq_length = 50
data_dim = 200 # Exclude the close price column
hidden_dim = 29
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -1.7246428439158152**





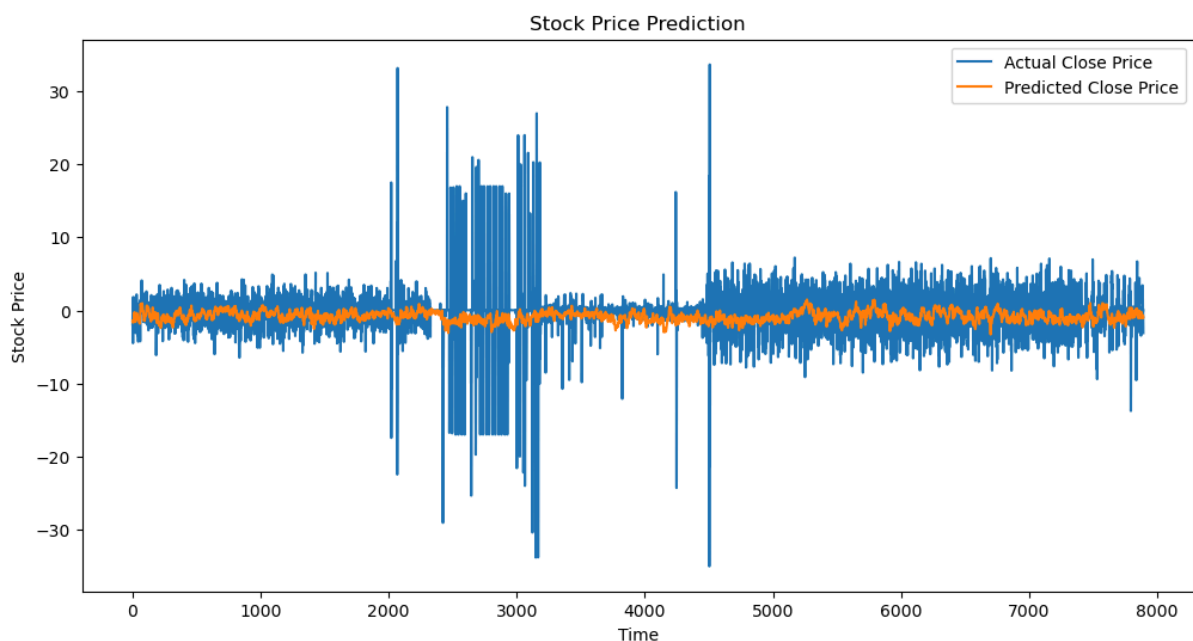
# ESO\_LSTM\_reverse\_norm

## 9≡ (Hidden Dimension)

```
# hyper parameters
seq_length = 50
data_dim = 200 # Exclude the close price column
hidden_dim = 31
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -0.6304161245198467**



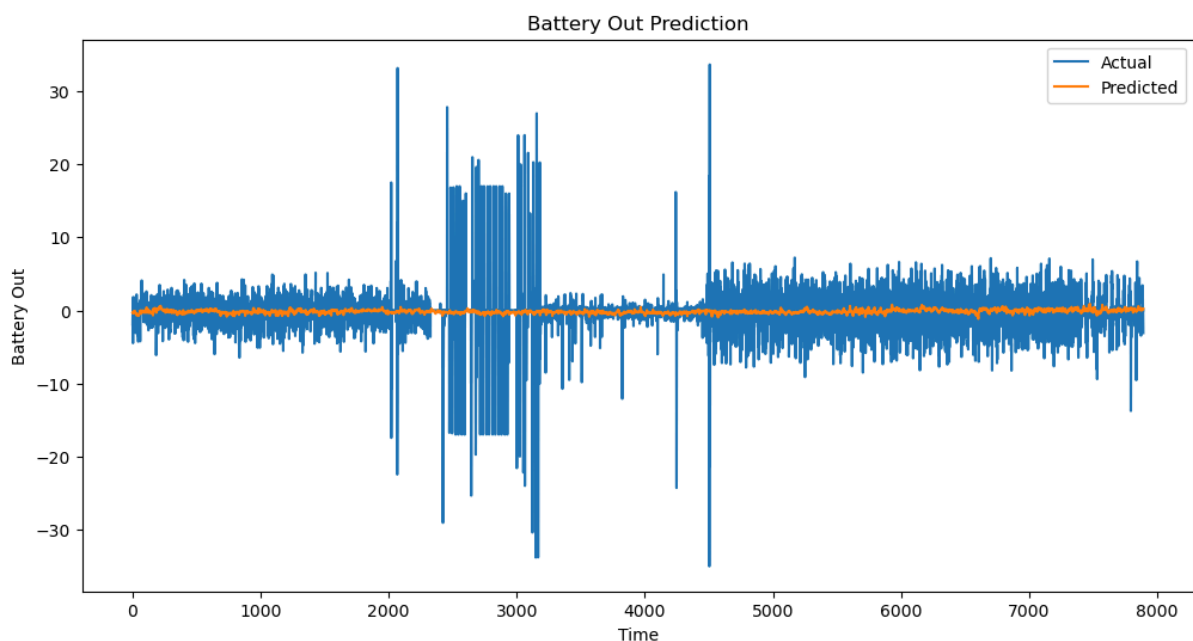
# ESO\_LSTM\_reverse\_norm

**10 $\Xi$  (Hidden Dimension + Batch 512)**

```
# hyper parameters
seq_length = 50
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.03663545414798109**



**hidden\_dim = 30**  
**batch\_size = 512**

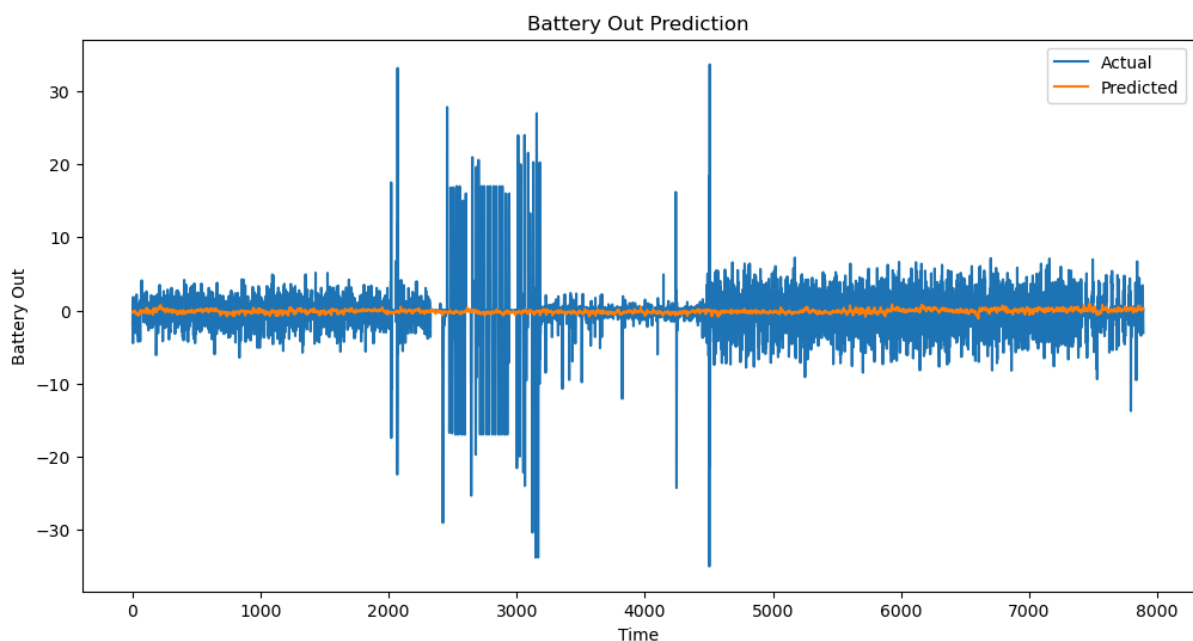
## ESO\_LSTM\_reverse\_norm (Batch 512)

11≡ (Sequence Length)

```
# hyper parameters
seq_length = 30
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.06832767719579941**



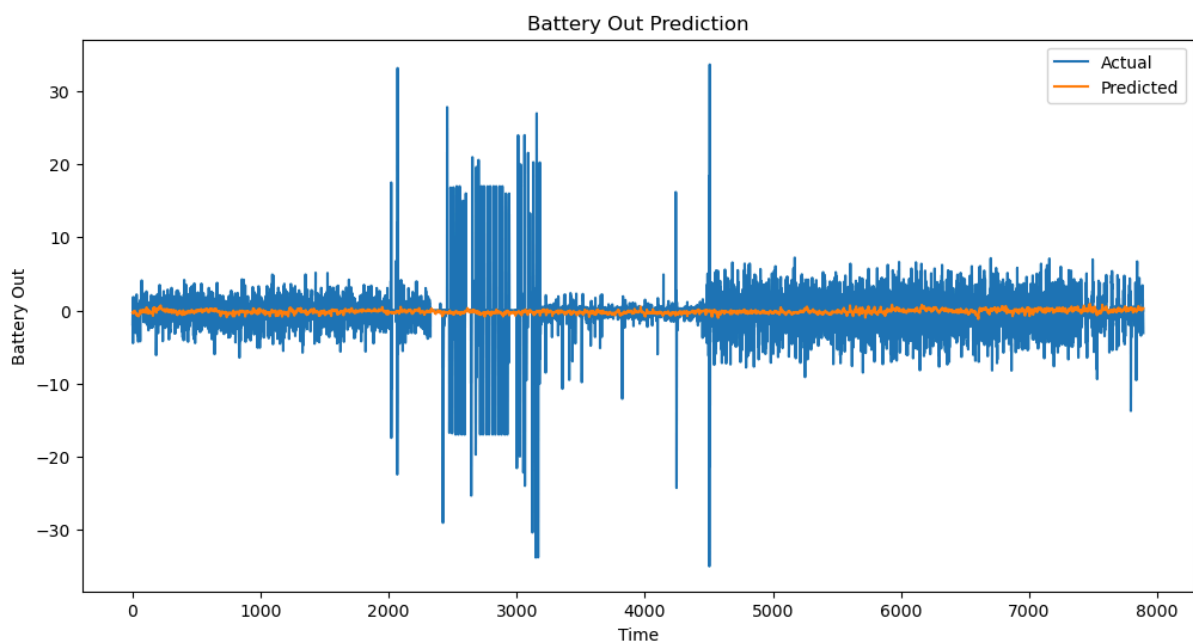
# ESO\_LSTM\_reverse\_norm

12≡ (Sequence Length)

```
# hyper parameters
seq_length = 20
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.042051549632794075**



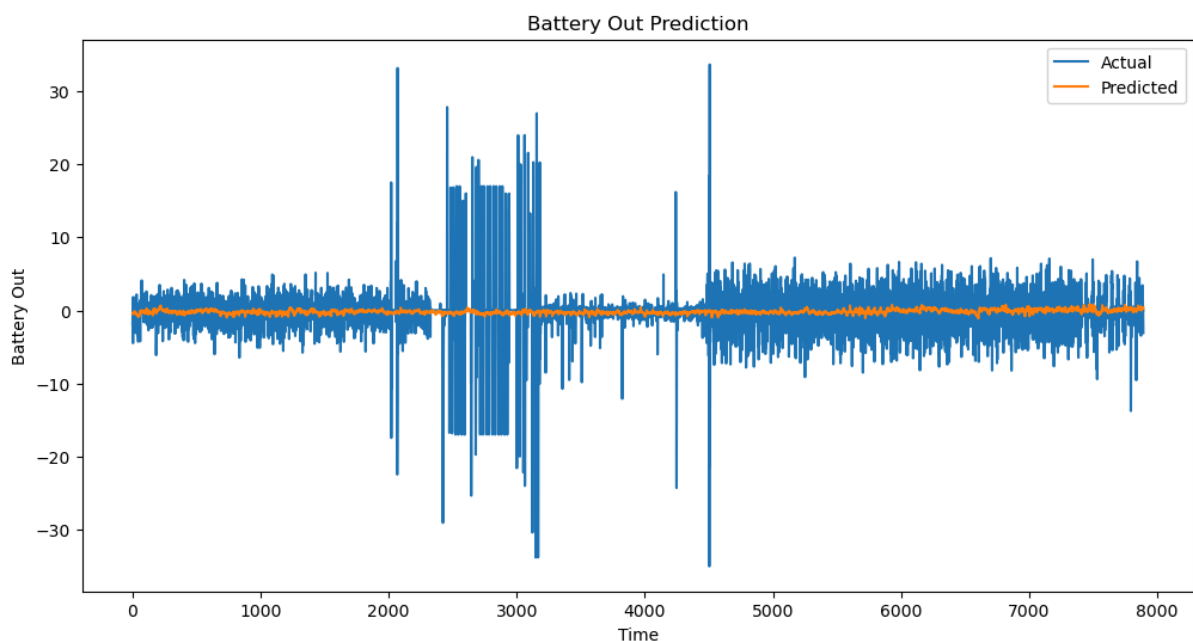
# ESO\_LSTM\_reverse\_norm

13≡ (Sequence Length)

```
# hyper parameters
seq_length = 10
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.015157384873340762**



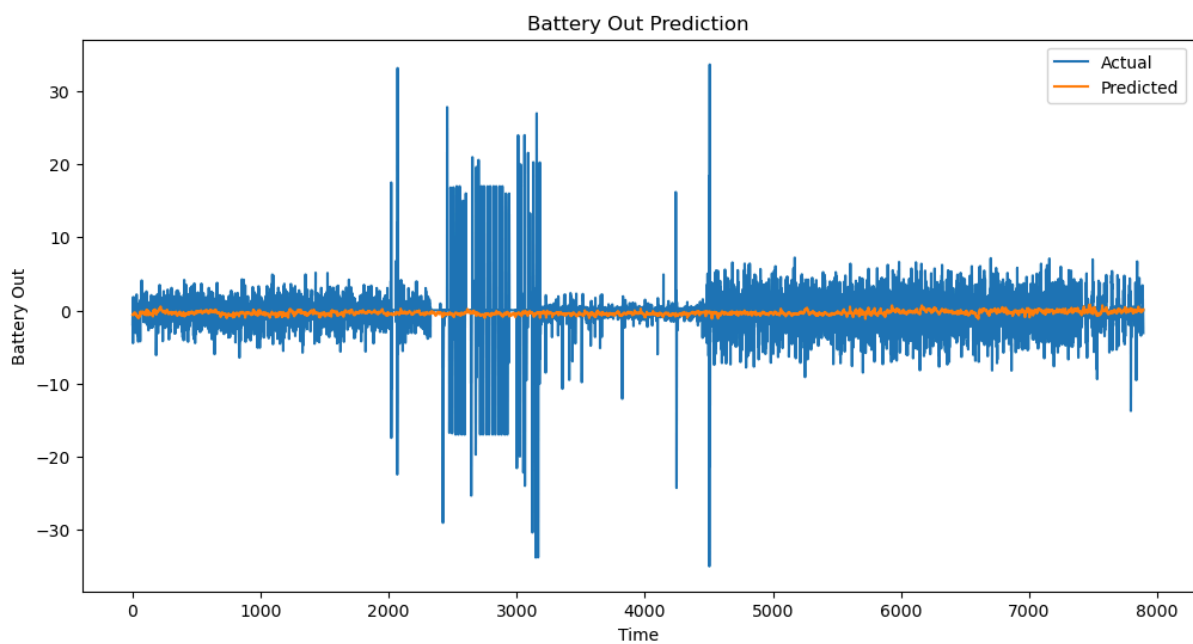
# ESO\_LSTM\_reverse\_norm

14  $\Xi$  (Sequence Length)

```
# hyper parameters
seq_length = 15
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -0.1354024235836048**



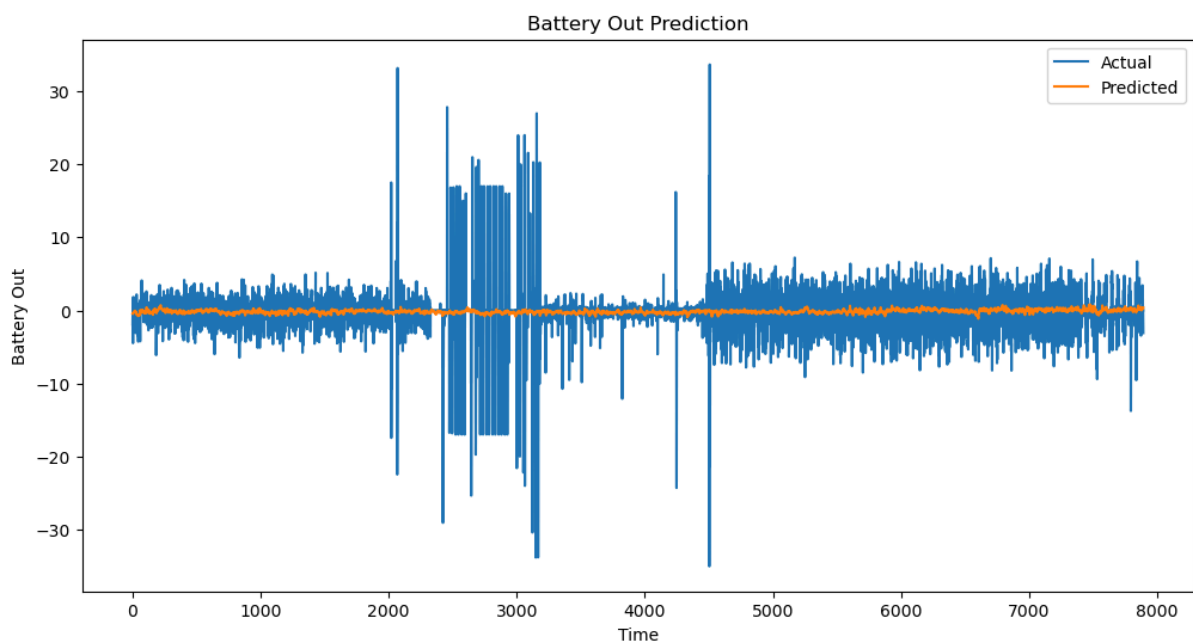
# ESO\_LSTM\_reverse\_norm

15 (Sequence Length)

```
# hyper parameters
seq_length = 8
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.04255019387306867**



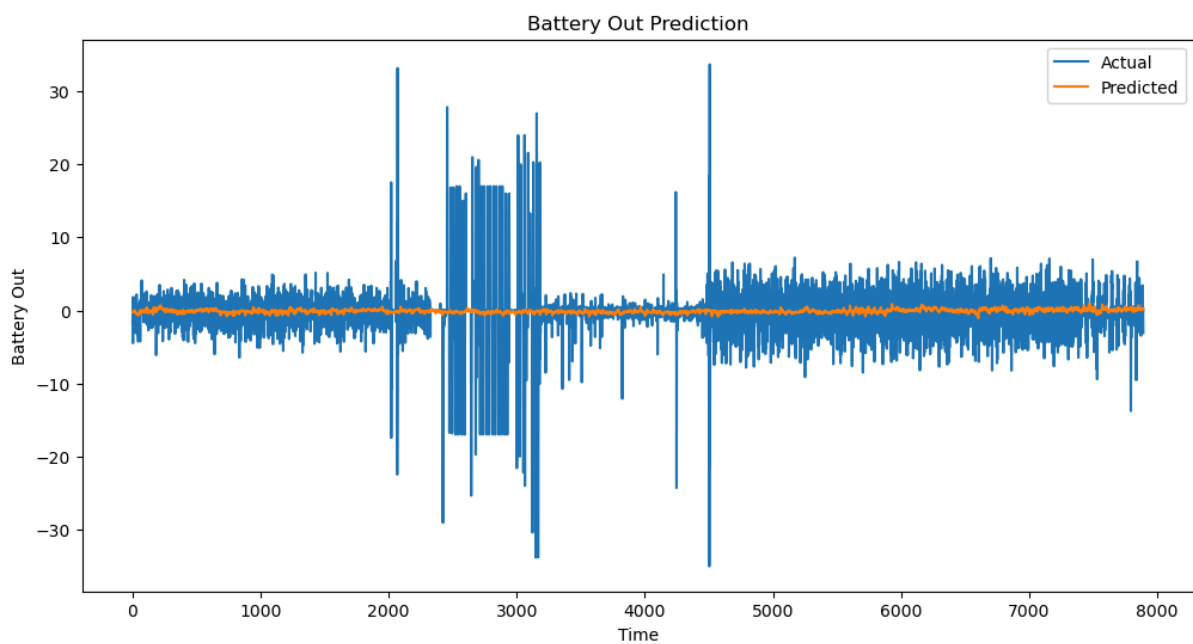
# ESO\_LSTM\_reverse\_norm

16≡ (Sequence Length)

```
# hyper parameters
seq_length = 80
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.08933511079612609**





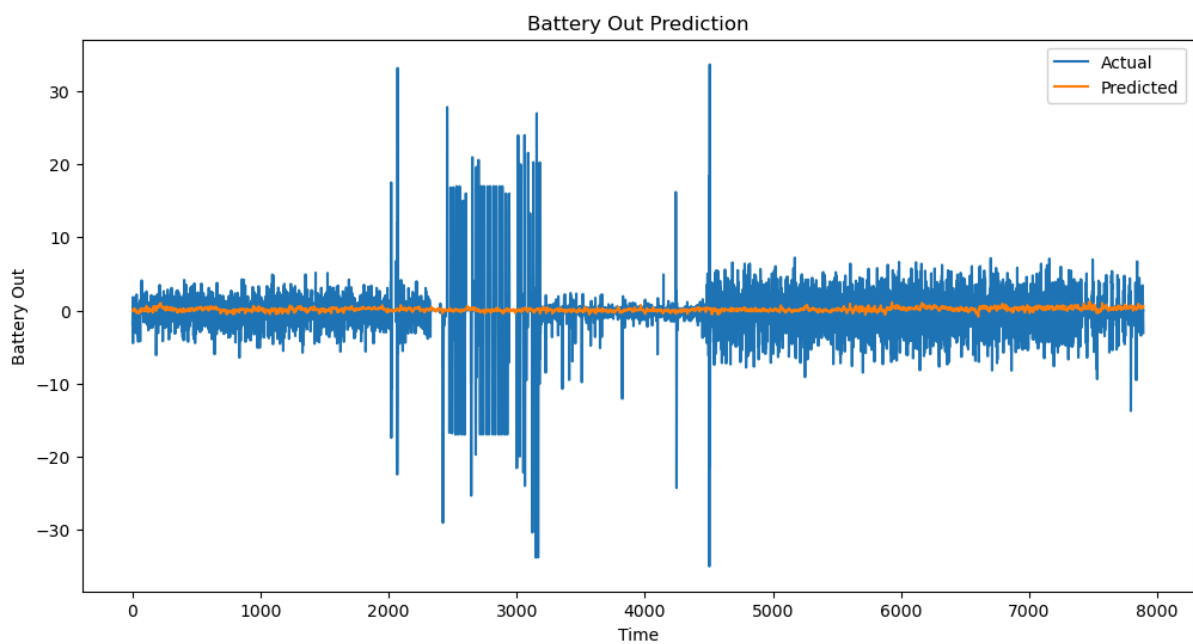
# ESO\_LSTM\_reverse\_norm

17≡ (Sequence Length)

```
# hyper parameters
seq_length = 70
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.3293032845815063**



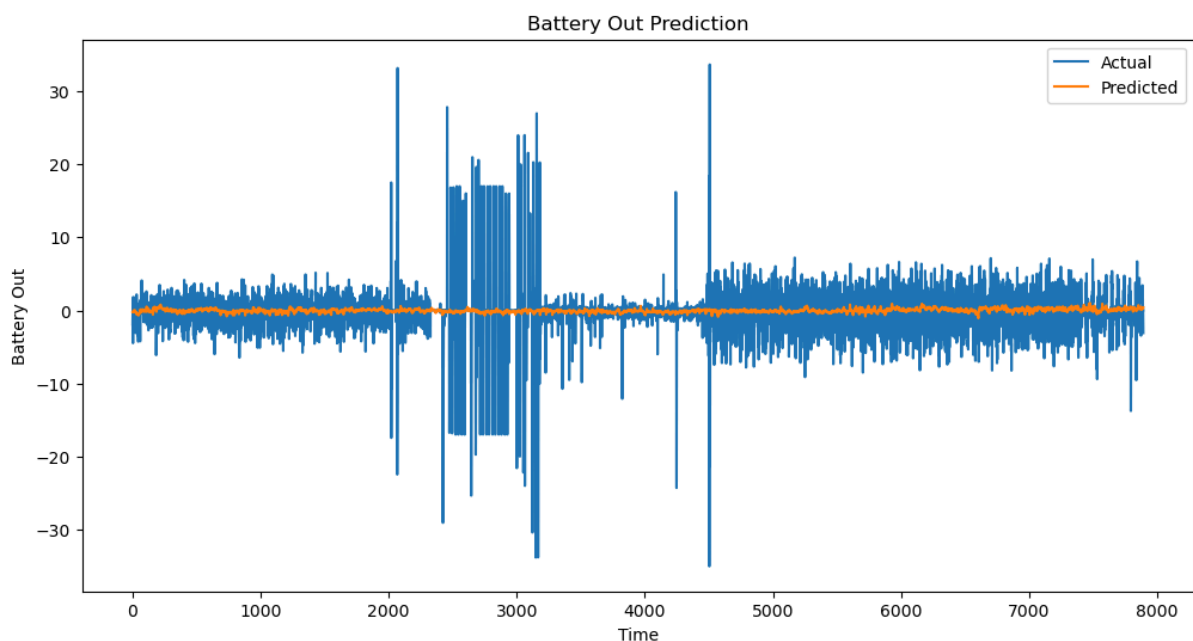
# ESO\_LSTM\_reverse\_norm

18≡ (Sequence Length)

```
# hyper parameters
seq_length = 75
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.16618698143515984**



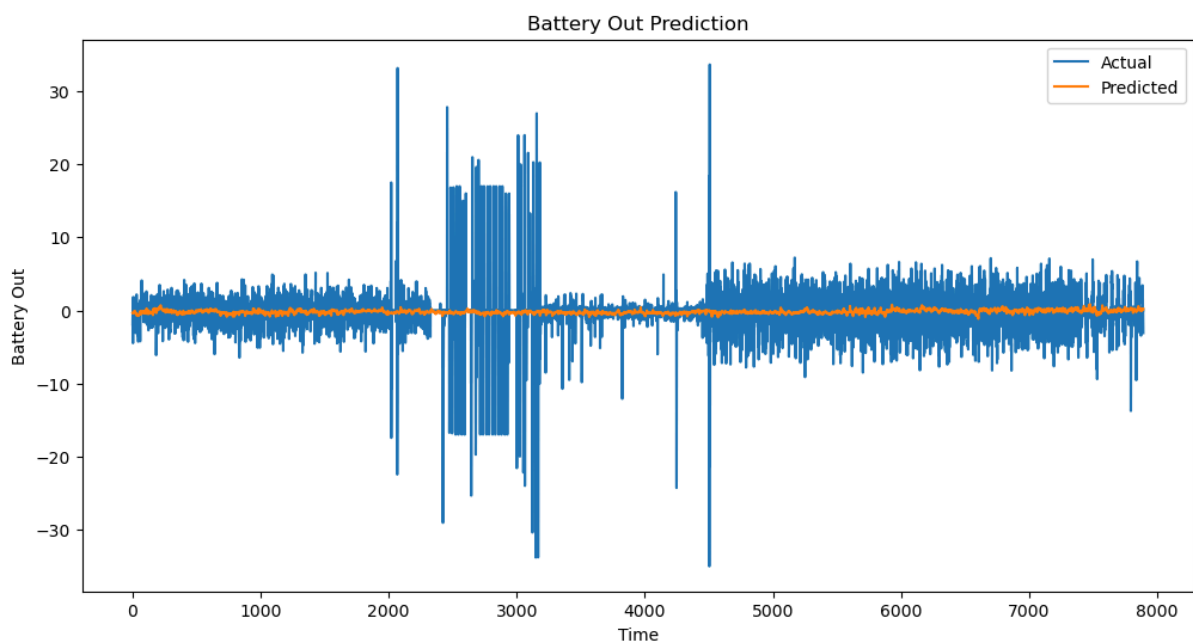
# ESO\_LSTM\_reverse\_norm

19≡ (Sequence Length)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.0024429161651181187**



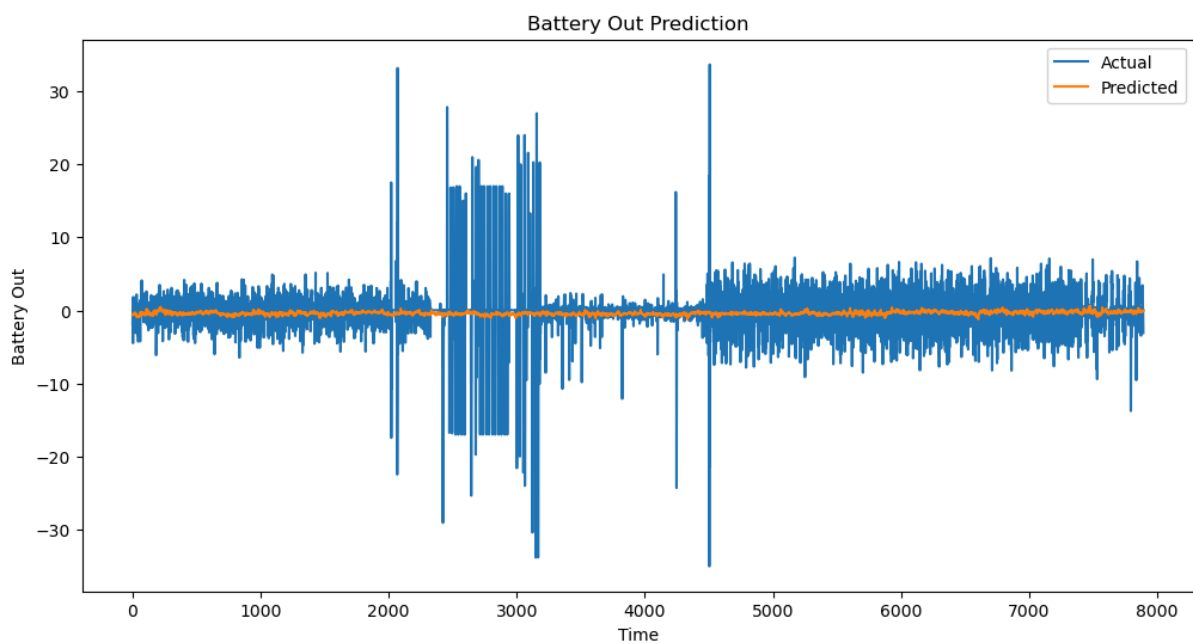
# ESO\_LSTM\_reverse\_norm

20 (Sequence Length)

```
# hyper parameters
seq_length = 83
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -0.18942539263556202**



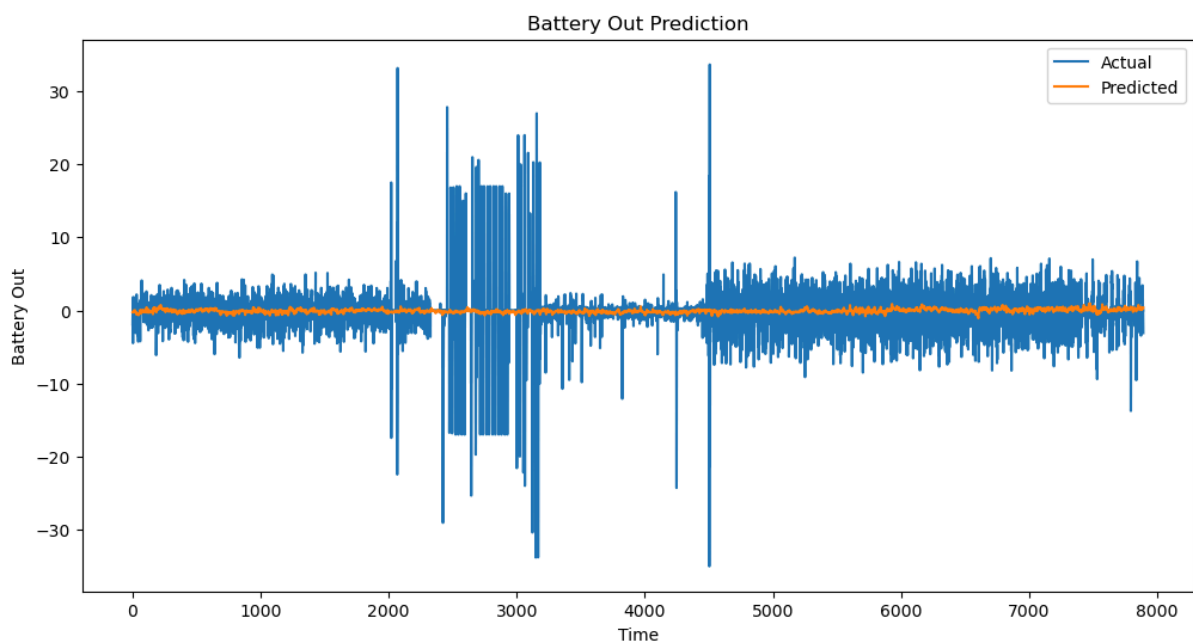
# ESO\_LSTM\_reverse\_norm

21≡ (Sequence Length)

```
# hyper parameters
seq_length = 81
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.1221199065283468**



**Sequence Length = 82**

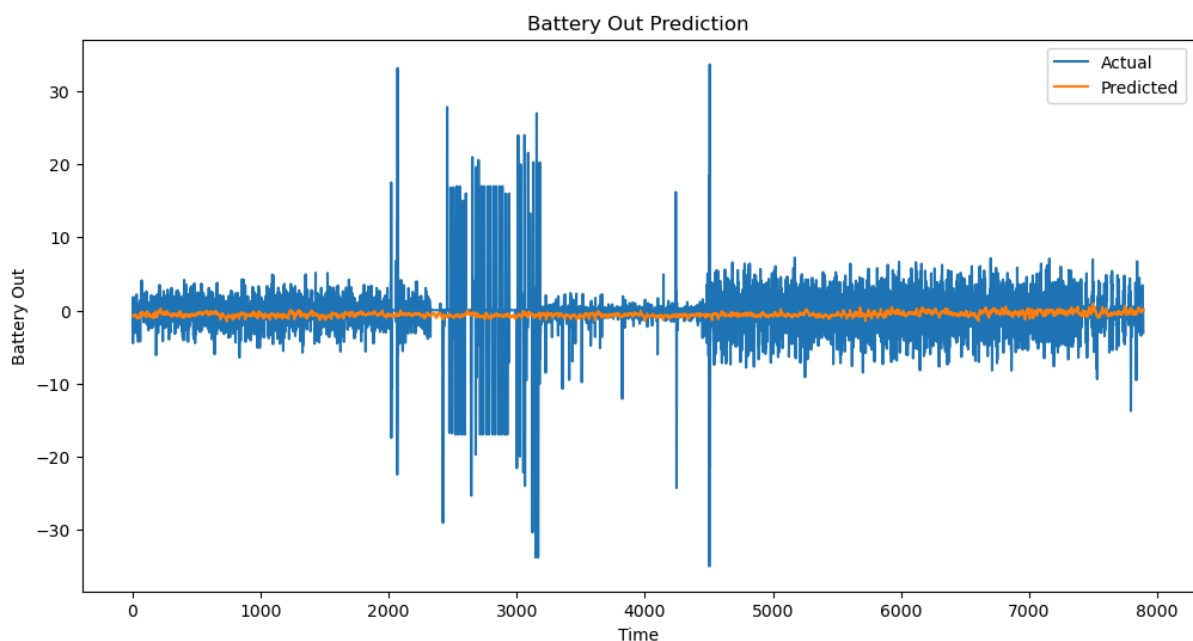
# ESO\_LSTM\_reverse\_norm

22≡ (Sequence Length)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 100

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -0.3461474917413014**



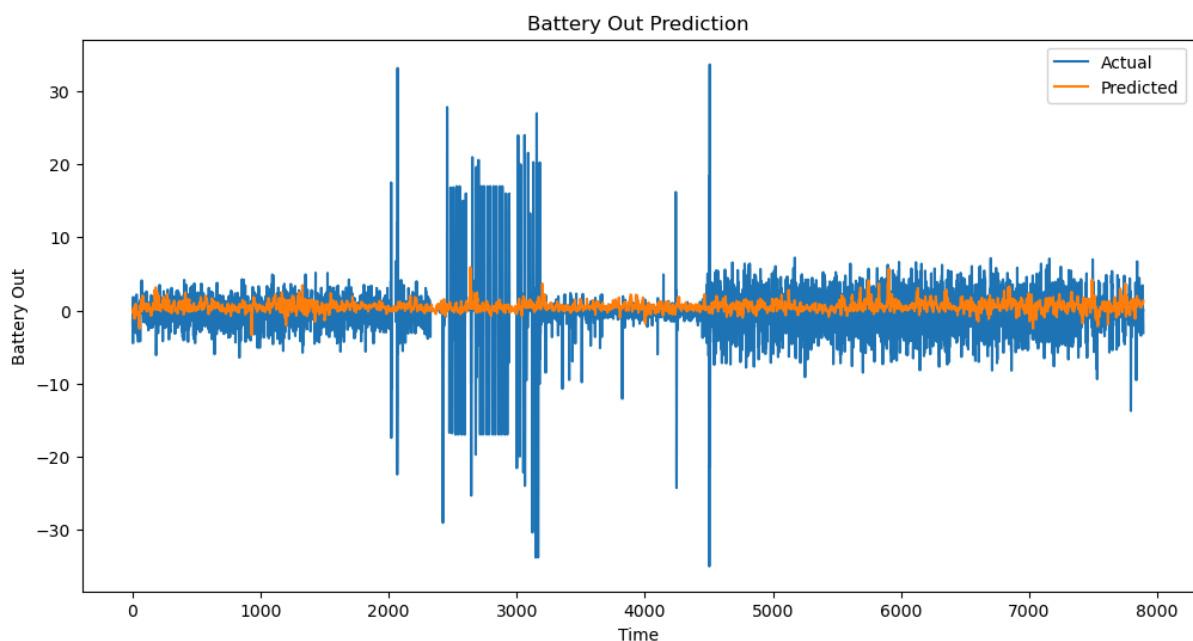
# ESO\_LSTM\_reverse\_norm

23≡ (Sequence Length)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 200

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.728412869624606**



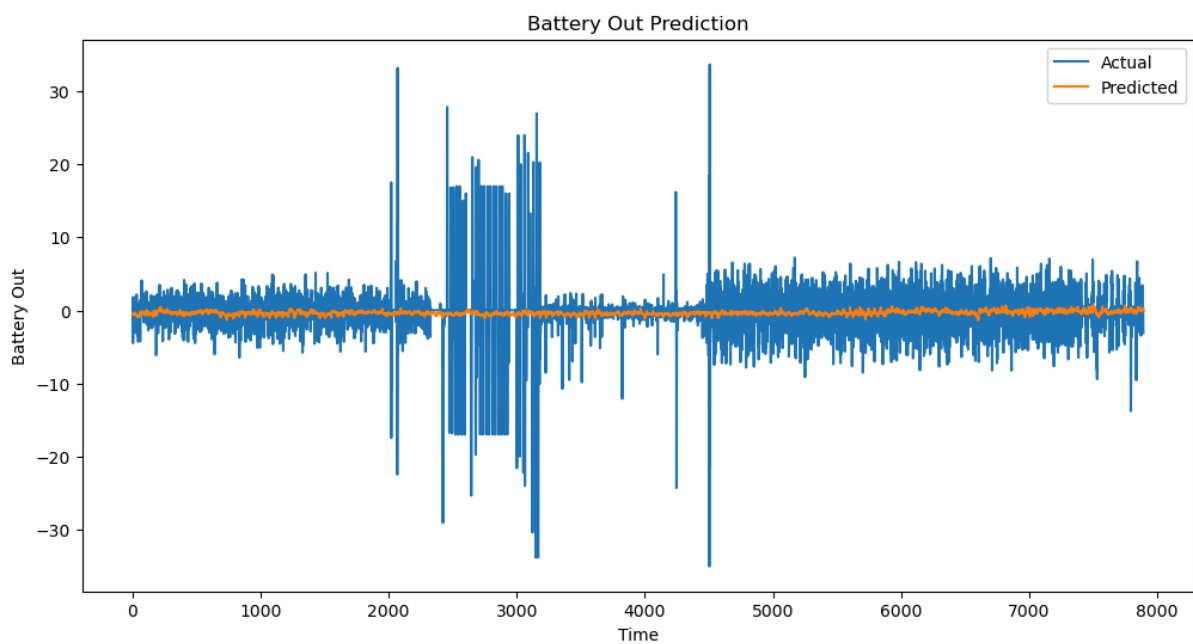
# ESO\_LSTM\_reverse\_norm

24 $\Xi$  (Sequence Length)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 80

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -0.13743736026040534**





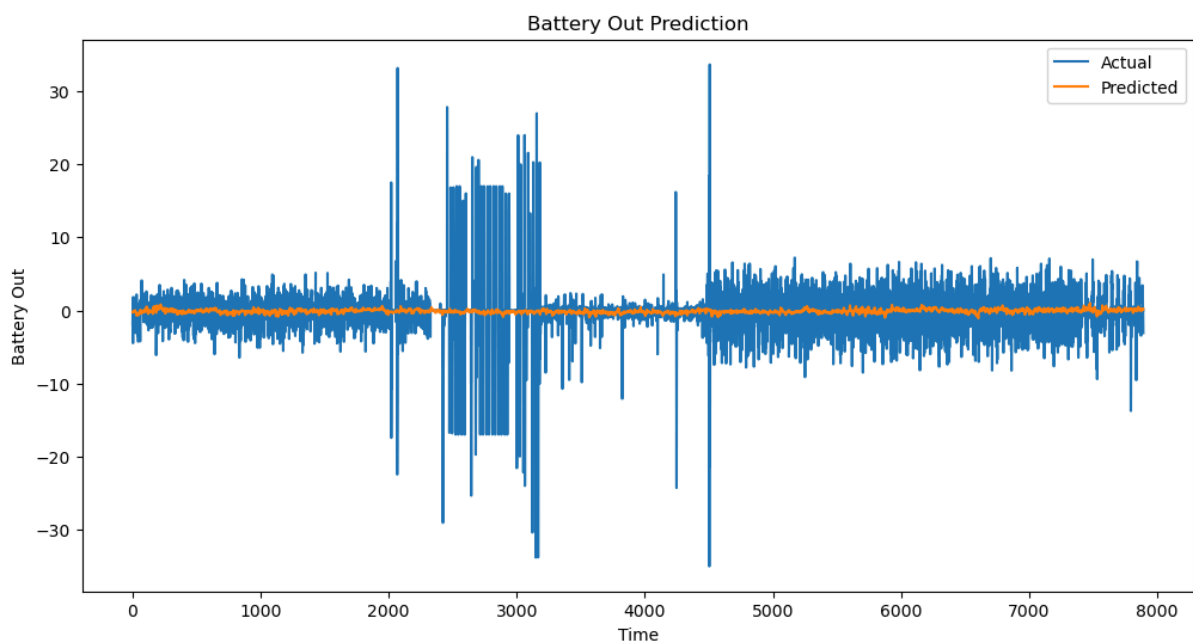
# ESO\_LSTM\_reverse\_norm

25 (Sequence Length)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 35

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.08157974155253617**



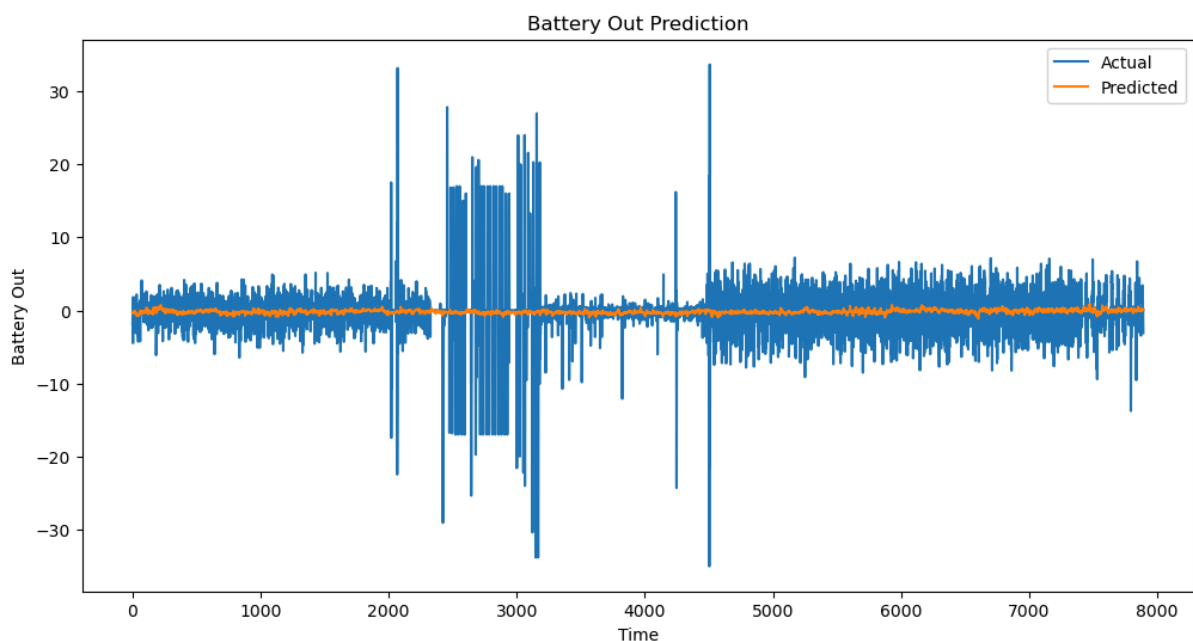
# ESO\_LSTM\_reverse\_norm

26≡ (Sequence Length)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 40

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.006937632084966891**



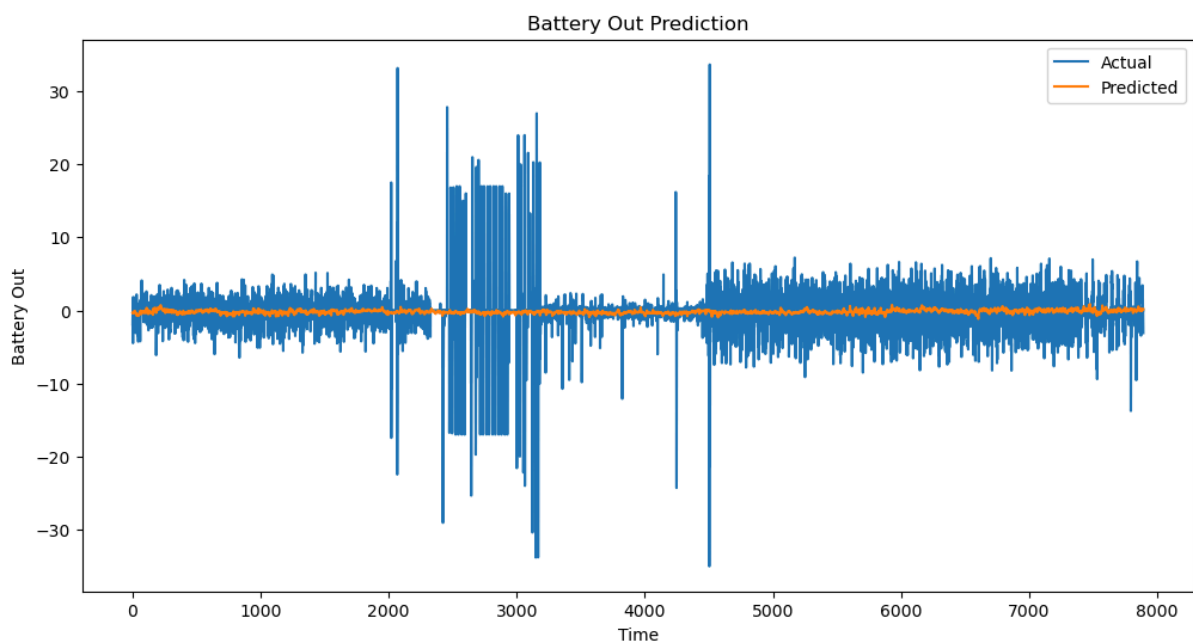
# ESO\_LSTM\_reverse\_norm

27  $\Xi$  (Sequence Length)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 45

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.009908601087327728**



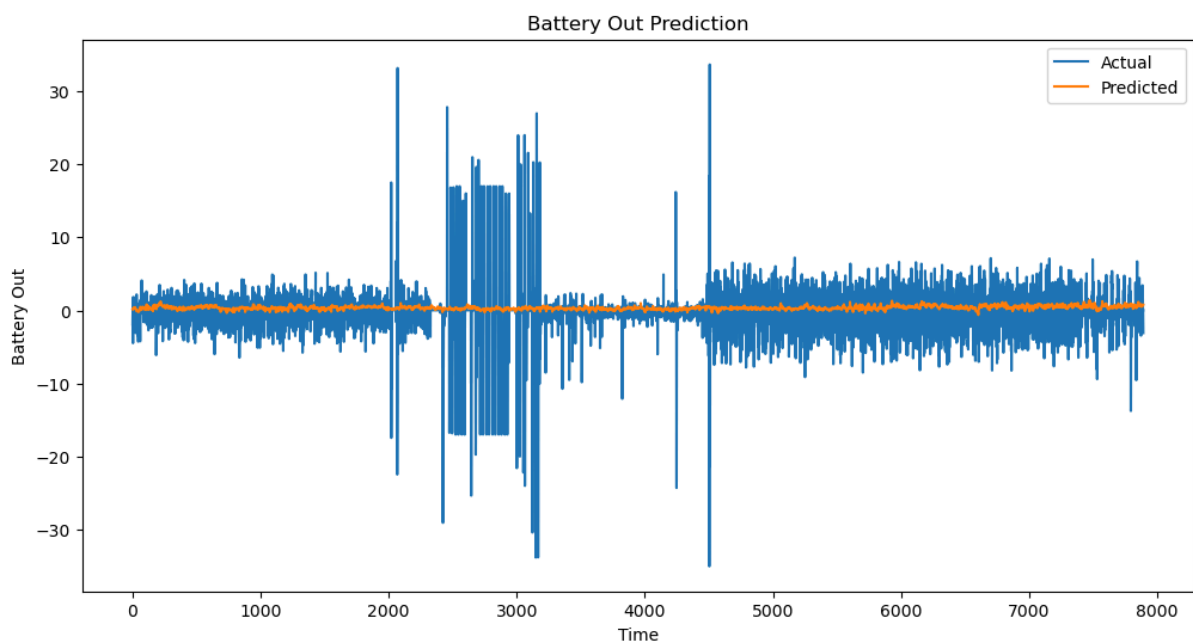
# ESO\_LSTM\_reverse\_norm

28≡ (Sequence Length)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 55

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.5503441142760956**



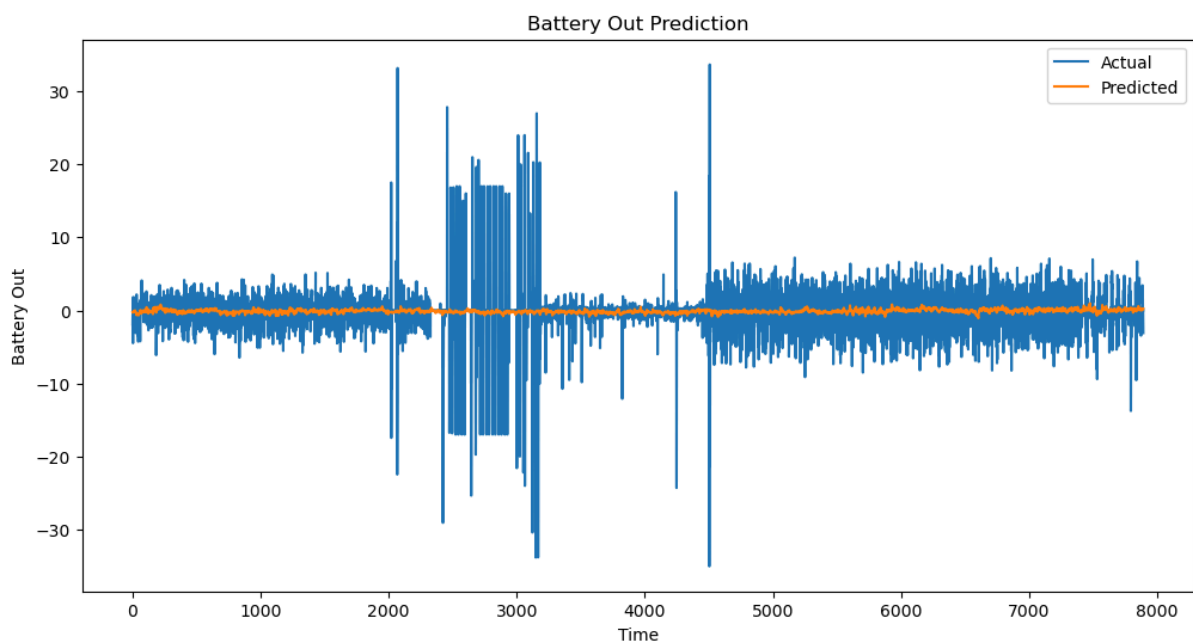
# ESO\_LSTM\_reverse\_norm

29≡ (Sequence Length)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 42

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.08478600676784813**



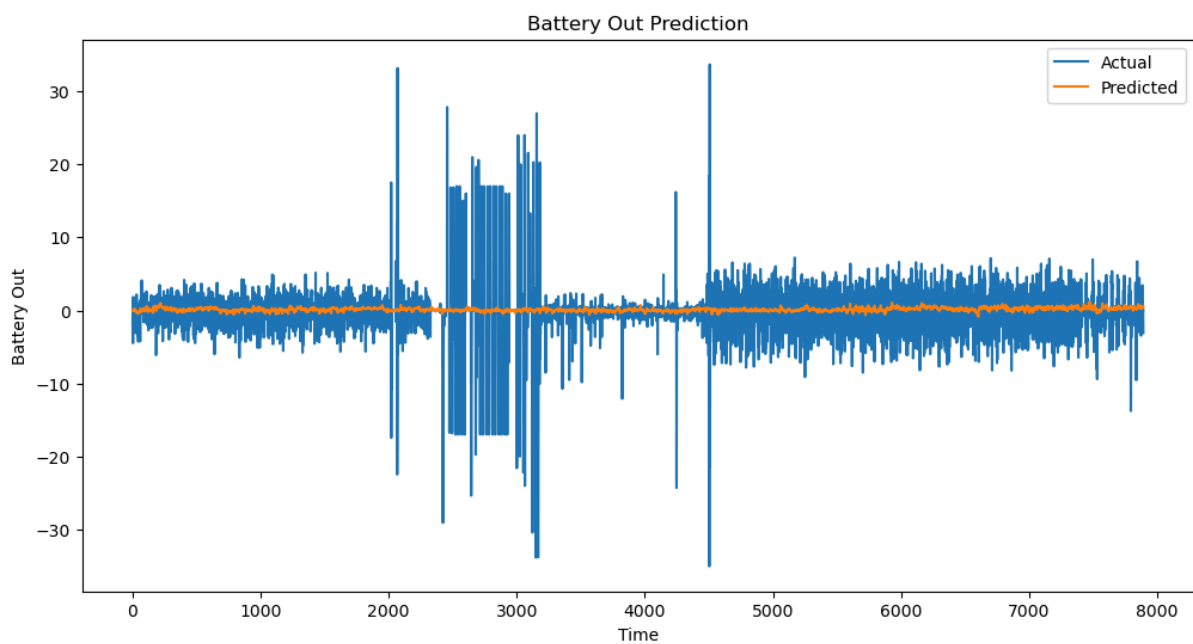
# ESO\_LSTM\_reverse\_norm

30 (Sequence Length)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 49

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.31023173984812635**



**Iterations: 50**

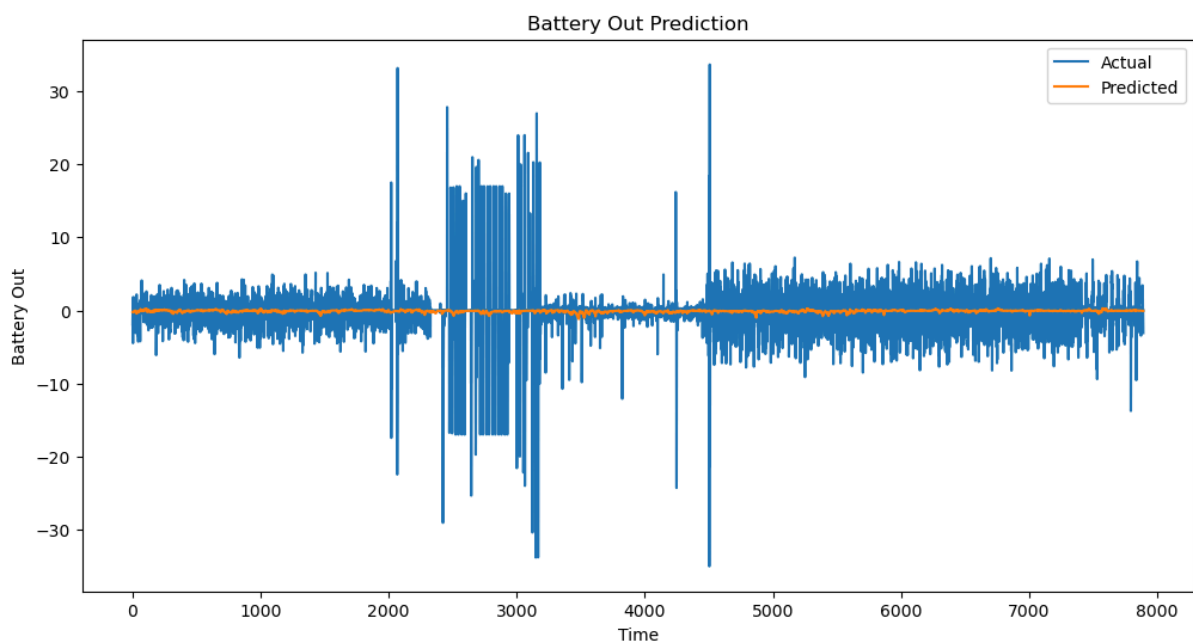
# ESO\_LSTM\_reverse\_norm

## 31≡ (Learning Rate)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.015
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.0935653751085007**



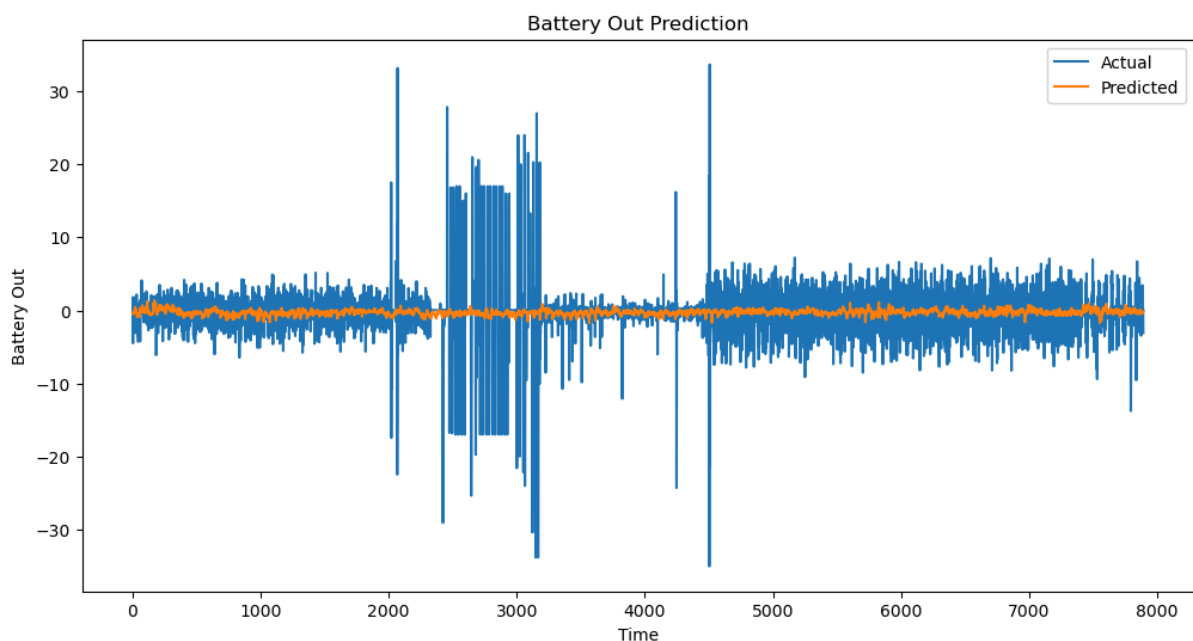
# ESO\_LSTM\_reverse\_norm

## 32 (Learning Rate)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.005
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -0.0818790194162641**





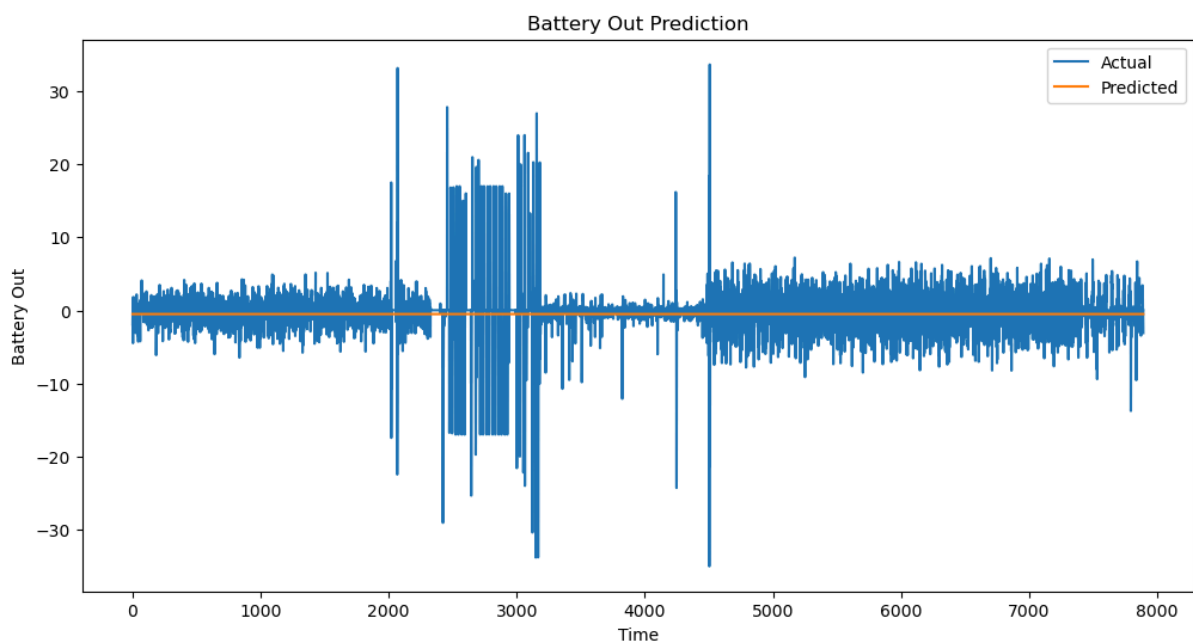
# ESO\_LSTM\_reverse\_norm

## 33≡ (Learning Rate)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.1
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -0.30747990840911366**



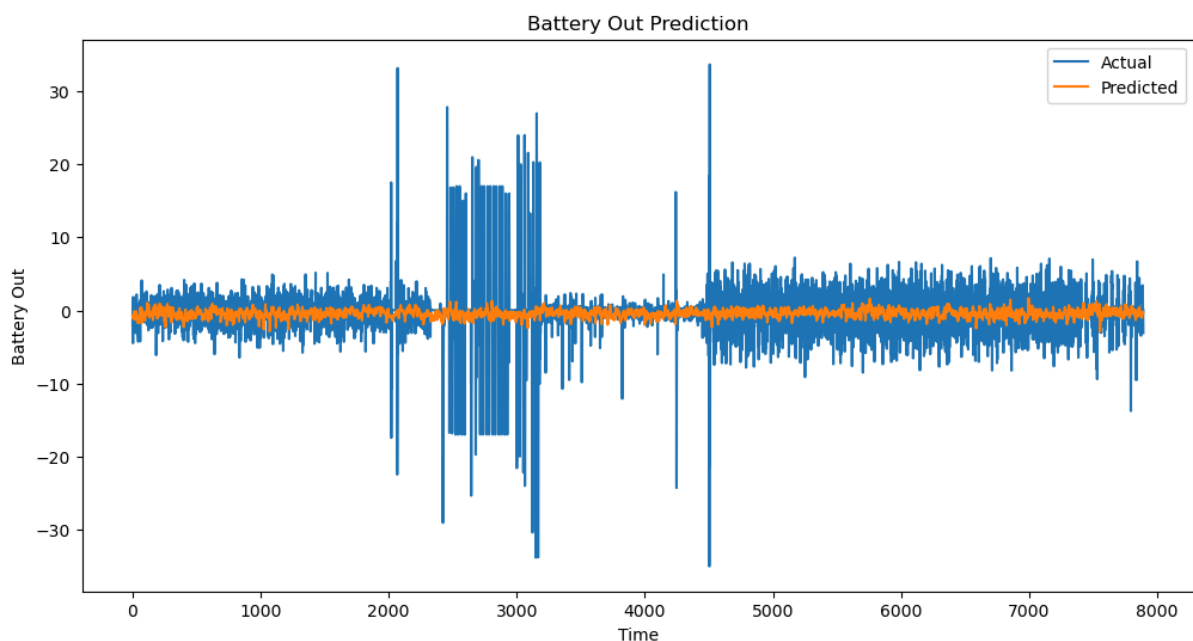
# ESO\_LSTM\_reverse\_norm

## 34 $\Xi$ (Learning Rate)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.001
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -0.21667242466267478**



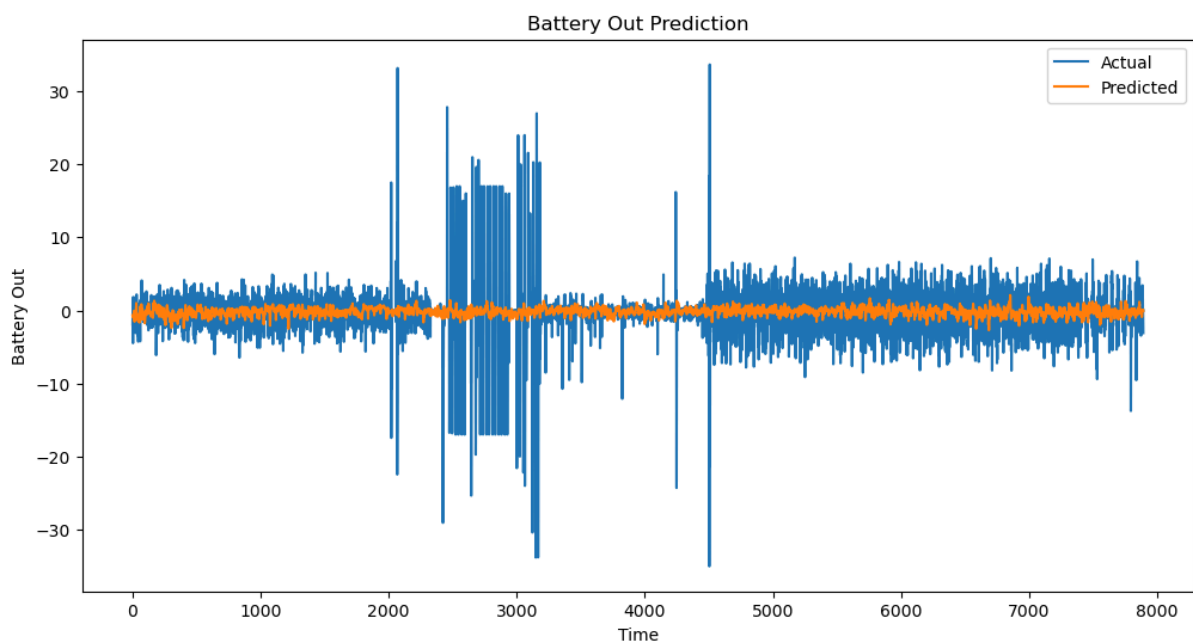
# ESO\_LSTM\_reverse\_norm

35 (Learning Rate + Iteration)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.001
iterations = 100

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.01549916265180976**



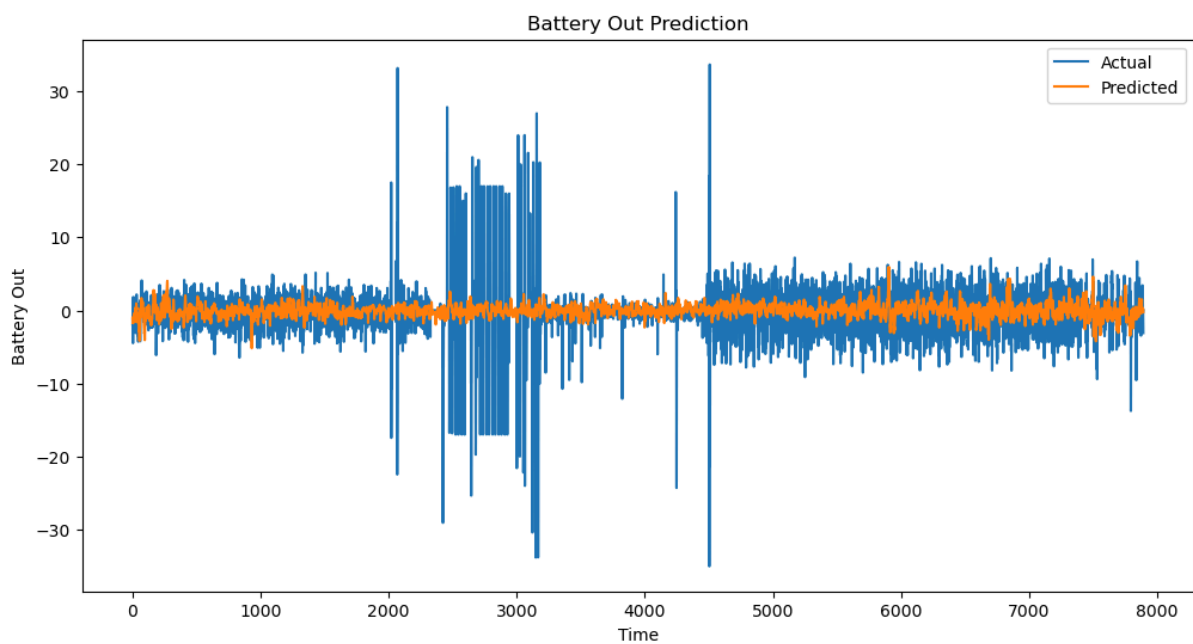
# ESO\_LSTM\_reverse\_norm

36≡ (Learning Rate + Iteration)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.001
iterations = 200

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.1806186168810745**



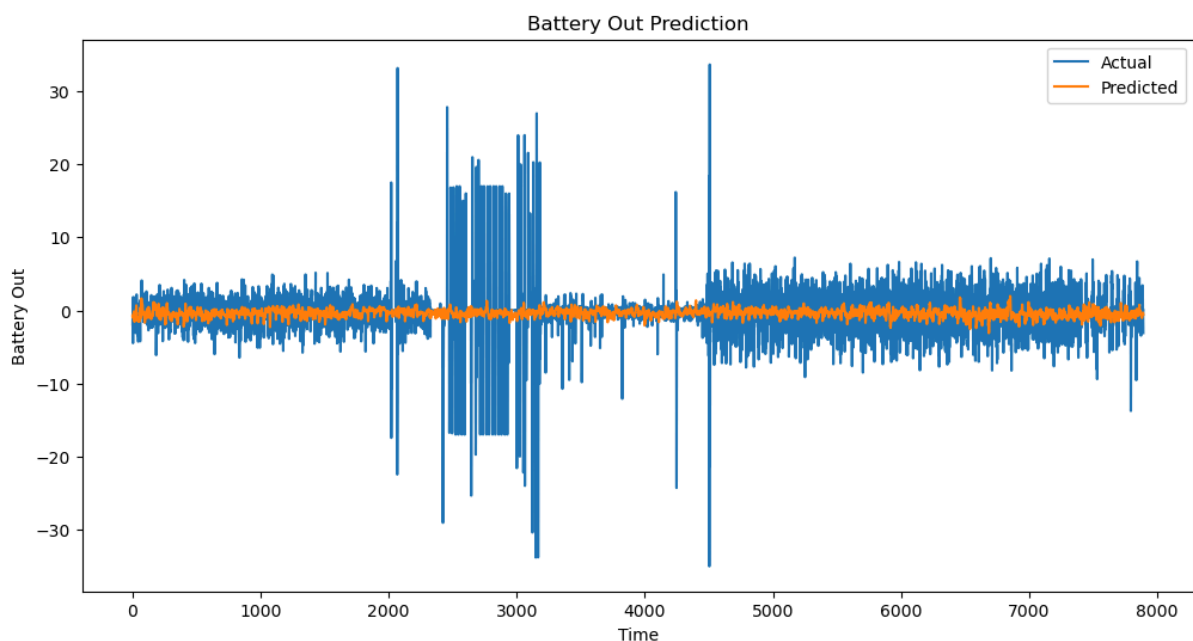
# ESO\_LSTM\_reverse\_norm

37  $\Xi$  (Learning Rate + Iteration)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.002
iterations = 100

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: -0.1748506521734783**



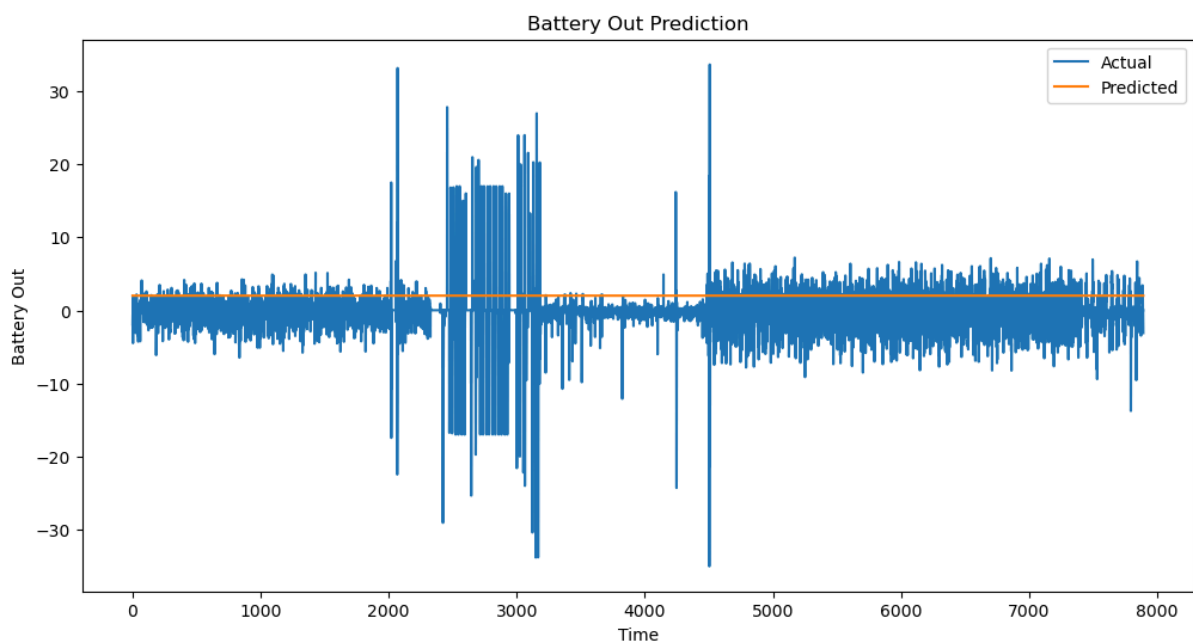
# ESO\_LSTM\_reverse\_norm

38≡ (Learning Rate + Iteration)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.1
iterations = 500

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 2.2088375592123617**



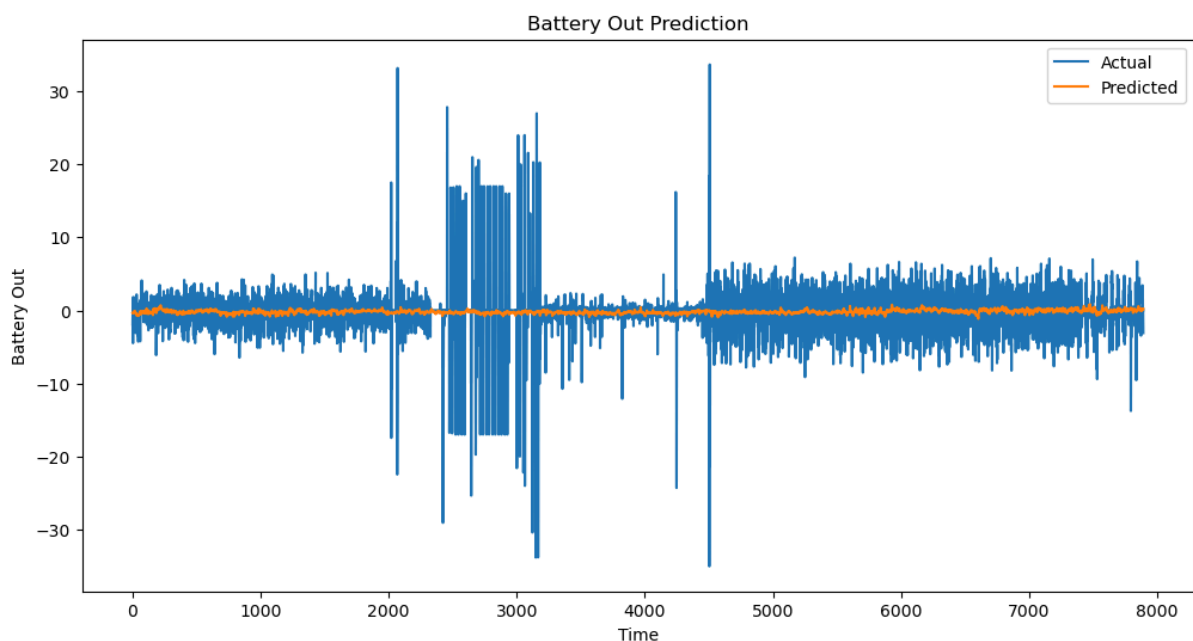
# ESO\_LSTM\_reverse\_norm

## 39≡ (Learning Rate + Iteration)

```
# hyper parameters
seq_length = 82
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.0024429161651181187**



# ESO\_LSTM\_reverse\_norm

40 $\Xi$  (Learning Rate + Iteration)

```
# hyper parameters
seq_length = 10
data_dim = 200 # Exclude the close price column
hidden_dim = 30
output_dim = 1
learning_rate = 0.01
iterations = 50

LSTM Layer: 1
Fully Connected Layer: 1
```

**Difference: 0.015157384873340762**

