**Best hyperparameters to each of LSTM and GRU**

**Using keras tuners library we summon this function:**

**“tuner.get\_best\_hyperparameters()[0].values”**

**LSTM 1 layer**

**{ 'dropout\_1': 0.30000000000000004,**

**'learning\_rate': 0.0001,**

**'unit1': 250}**

**LSTM 2 layers**

**{'dropout\_1': 0.6,**

**'dropout\_4': 0.4,**

**'learning\_rate': 0.0001,**

**'reg\_rate2': 0.2,**

**'reg\_rate3': 0.2,**

**'unit1': 410,**

**'unit4': 70}**

**LSTM 3 layers**

**{'dropout\_1': 0.4,**

**'dropout\_4': 0.4,**

**'dropoutfor\_0': 0.6,**

**'learning\_rate': 0.0001,**

**'num\_layers': 1,**

**'reg\_rate2': 0.1,**

**'reg\_rate3': 0.3,**

**'unit1': 270,**

**'unit4': 430,**

**'unitfor\_0': 430}**

**GRU 1 layer**

**{'dropout\_1': 0.30000000000000004,**

**'learning\_rate': 0.0001,**

**'reg\_rate2': 0.05,**

**'unit1': 470}**

**GRU 2 layers**

**{'dropout\_1': 0.7000000000000001,**

**'dropout\_4': 0.6,**

**'learning\_rate': 0.0001,**

**'reg\_rate2': 0.3,**

**'reg\_rate3': 0.1,**

**'unit1': 470,**

**'unit4': 430}**

**GRU 3 layers**

**{'dropout\_1': 0.5,**

**'dropout\_4': 0.5,**

**'dropoutfor\_0': 0.1,**

**'learning\_rate': 0.0001,**

**'num\_layers': 1,**

**'reg\_rate2': 0.05,**

**'reg\_rate3': 0.4,**

**'unit1': 210,**

**'unit4': 230,**

**'unitfor\_0': 370}**