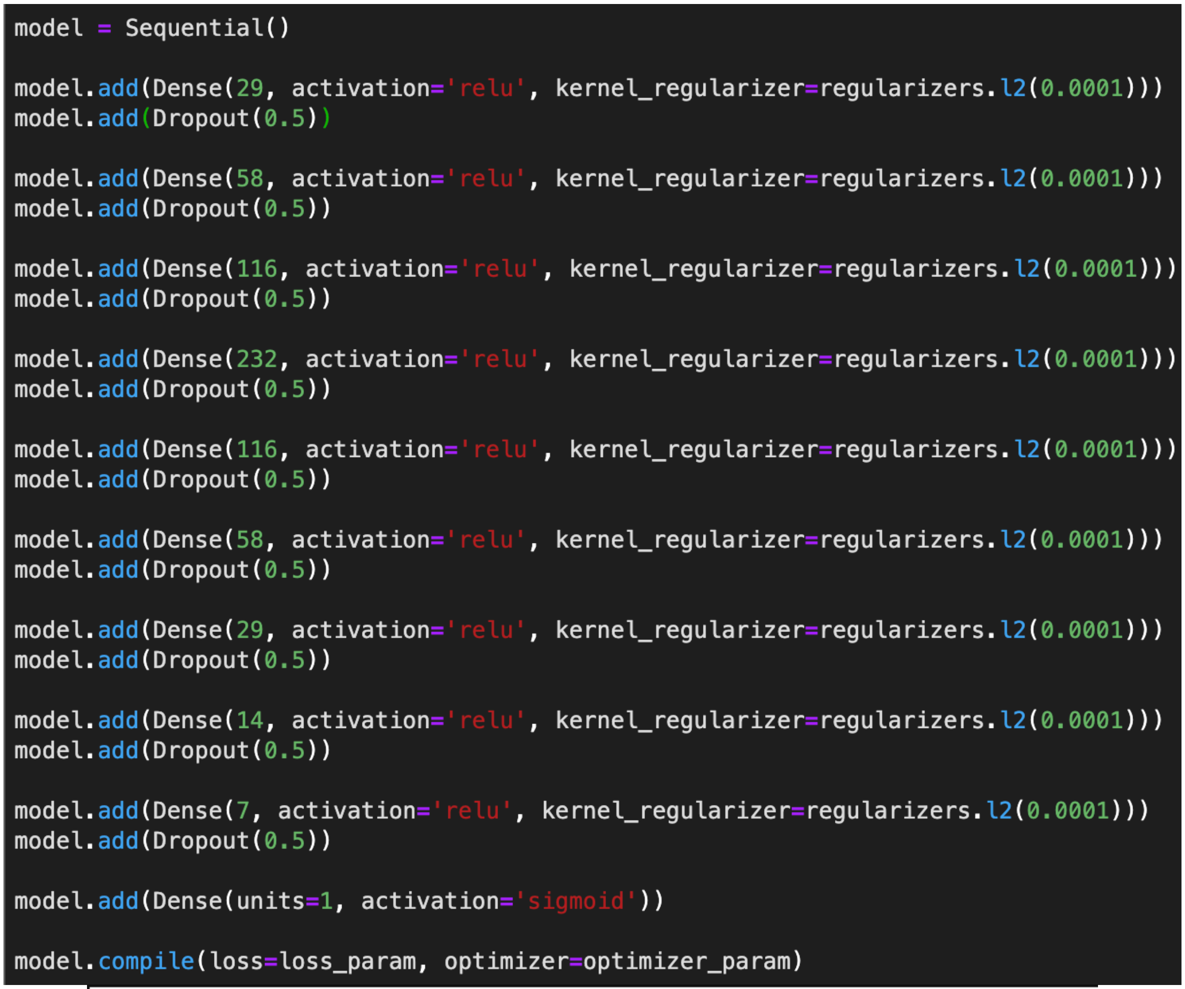
Model 1

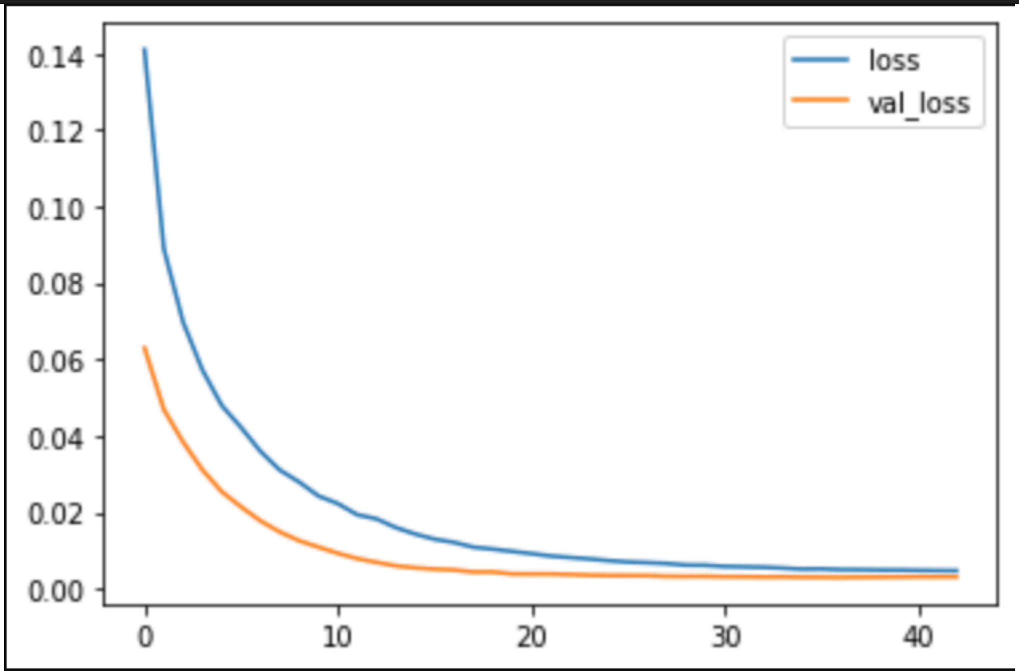
Mean Loss: 0.0198435

Mean Validation Loss: 0.00966795

Batch Size: 128

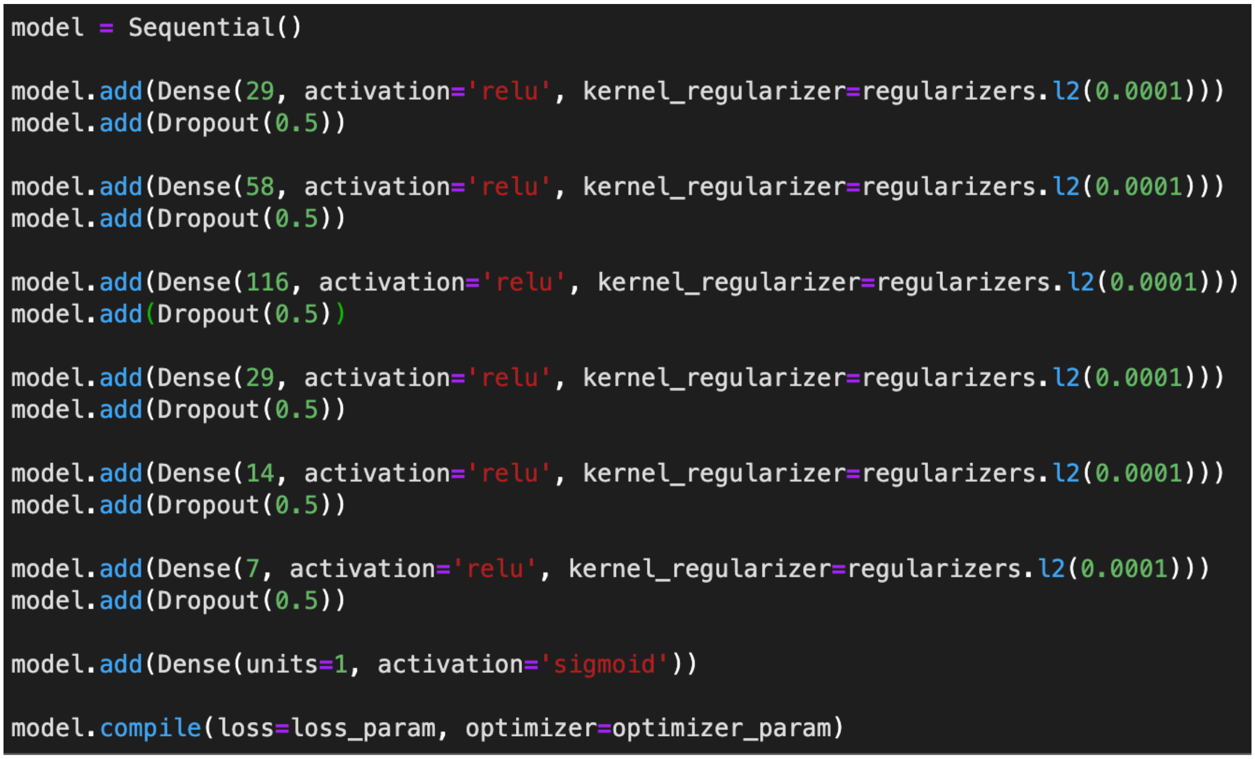


```
model = Sequential()

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(58, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(232, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(58, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(14, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(7, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(units=1, activation='sigmoid'))

model.compile(loss=loss_param, optimizer=optimizer_param)
```

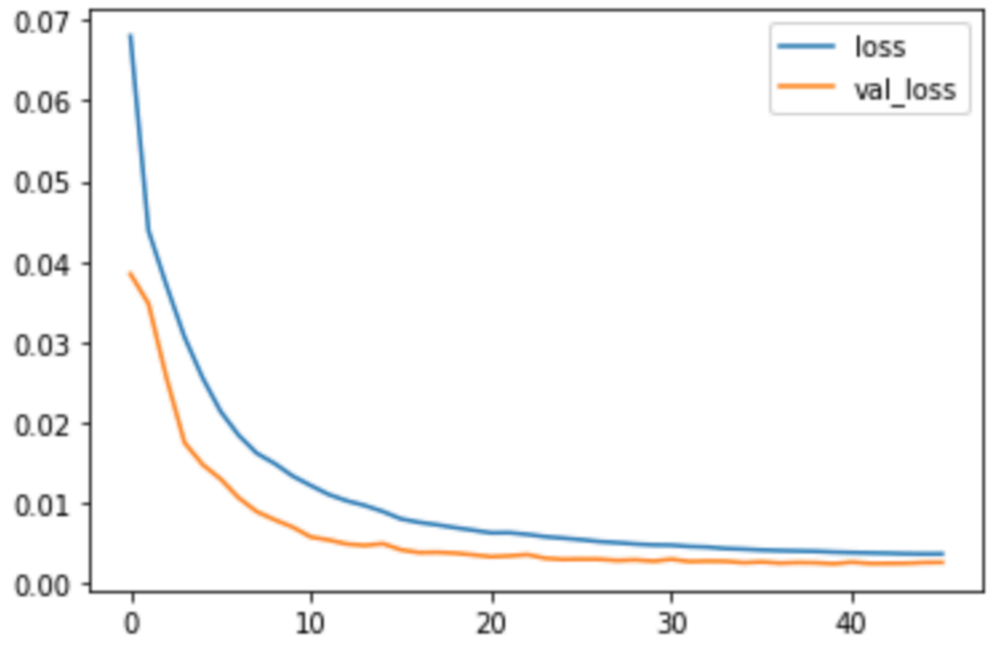


Model 2

Mean Loss:	0.0107984
Mean Validation Loss:	0.00640694
Batch Size:	128

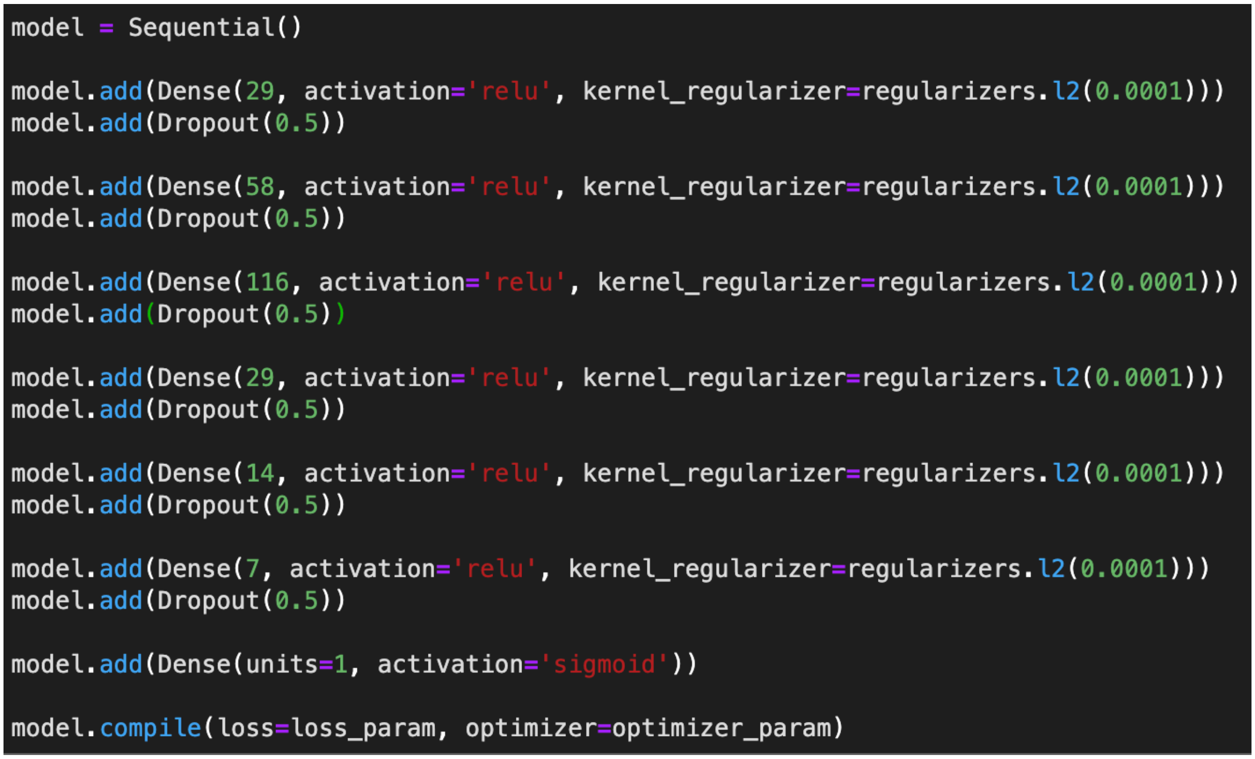


```
model = Sequential()

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(58, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(14, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(7, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(units=1, activation='sigmoid'))

model.compile(loss=loss_param, optimizer=optimizer_param)
```

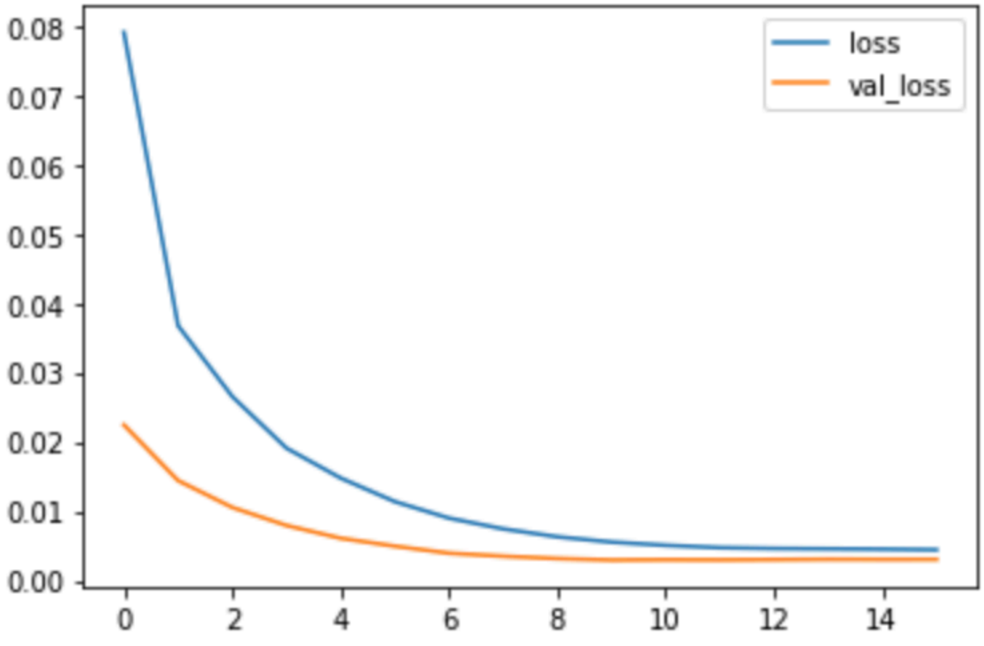


Model 3

Mean Loss:	0.0152167
Mean Validation Loss:	0.00610194
Batch Size:	32

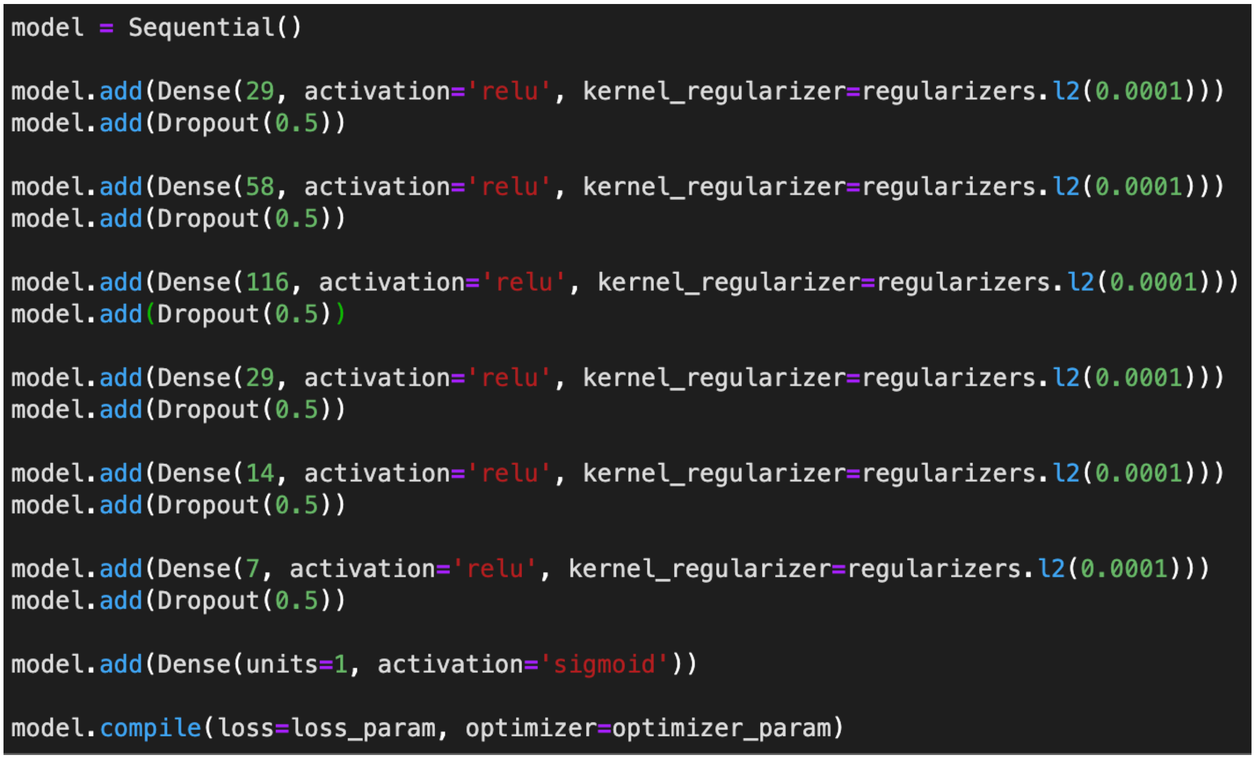


```
model = Sequential()

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(58, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(14, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(7, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(units=1, activation='sigmoid'))

model.compile(loss=loss_param, optimizer=optimizer_param)
```

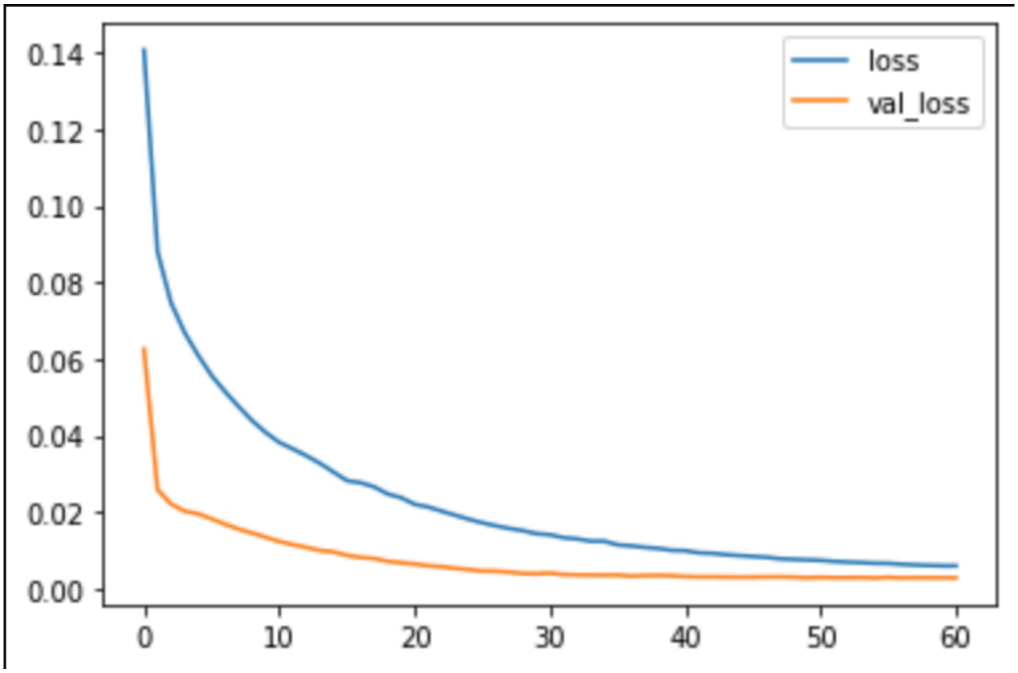


Model 4

Mean Loss:	0.0234176
Mean Validation Loss:	0.00764555
Batch Size:	256

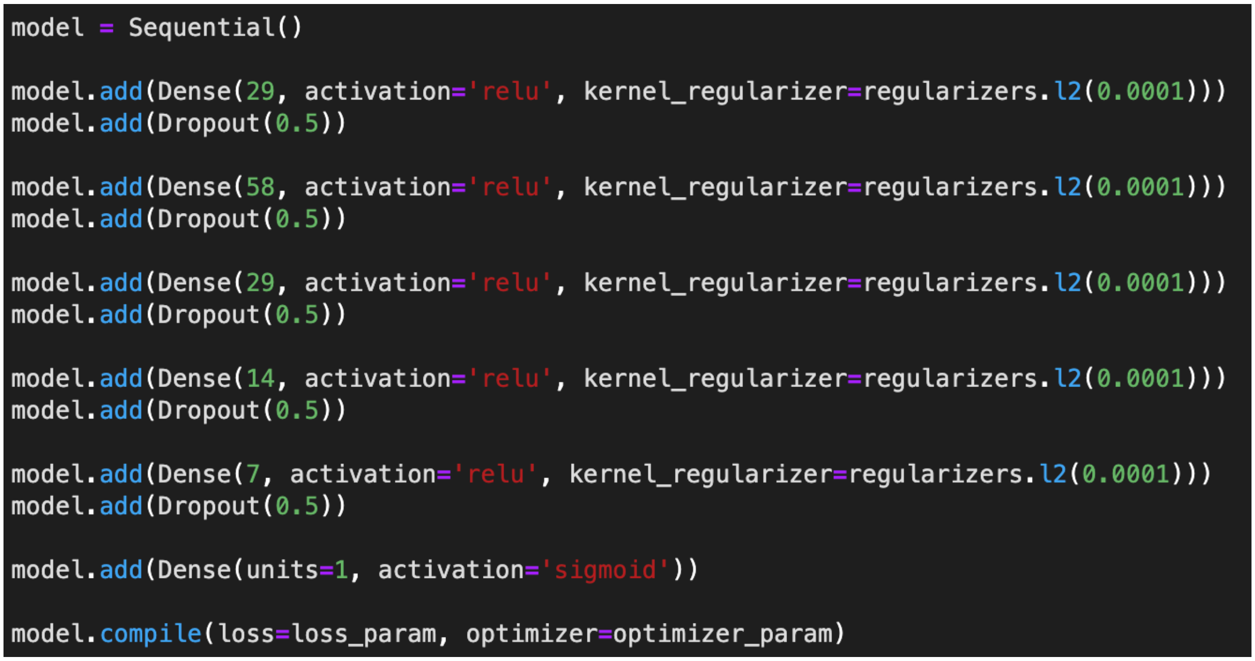


```
model = Sequential()

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(58, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(14, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(7, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(units=1, activation='sigmoid'))

model.compile(loss=loss_param, optimizer=optimizer_param)
```

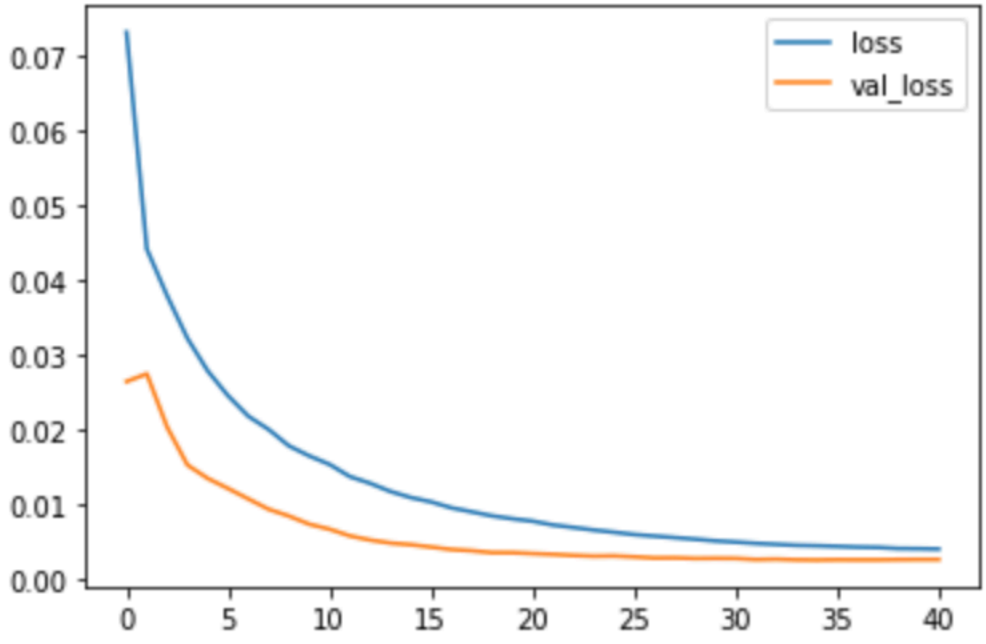


Model 5

Mean Loss:	0.0130172
Mean Validation Loss:	0.00618403
Batch Size:	128

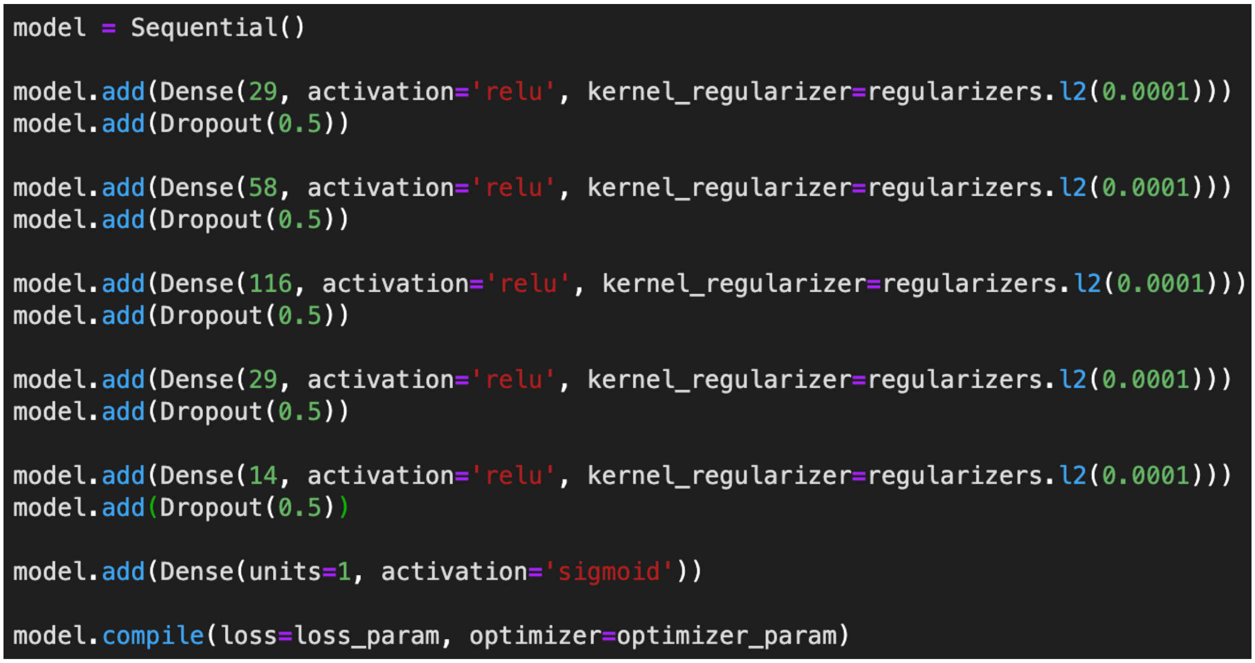


```
model = Sequential()

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(58, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(14, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(7, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(units=1, activation='sigmoid'))

model.compile(loss=loss_param, optimizer=optimizer_param)
```

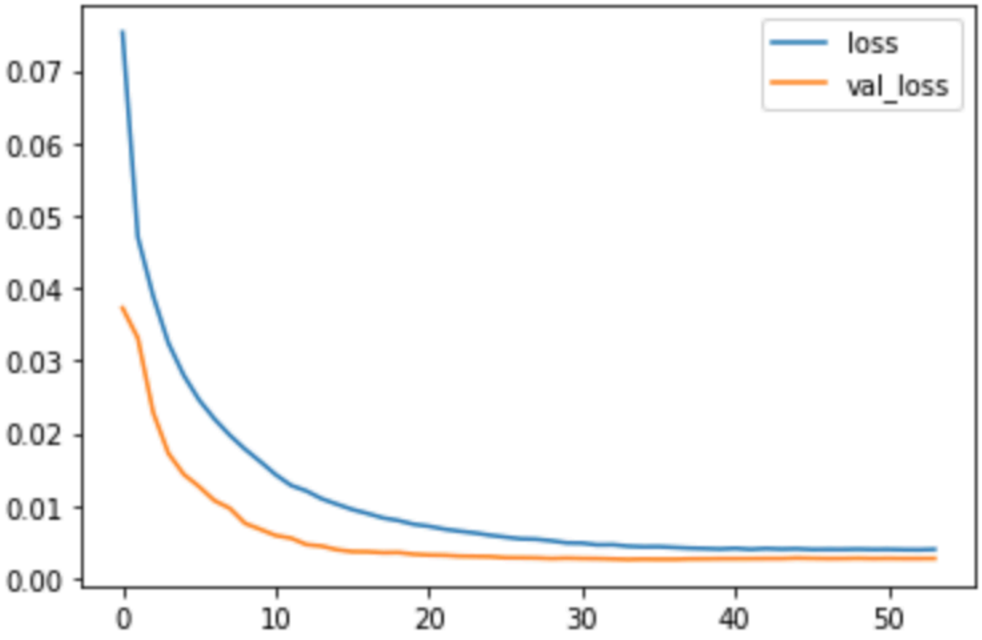


Model 6

Mean Loss:	0.0107793
Mean Validation Loss:	0.00569587
Batch Size:	128



```
model = Sequential()

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(58, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(14, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(units=1, activation='sigmoid'))

model.compile(loss=loss_param, optimizer=optimizer_param)
```



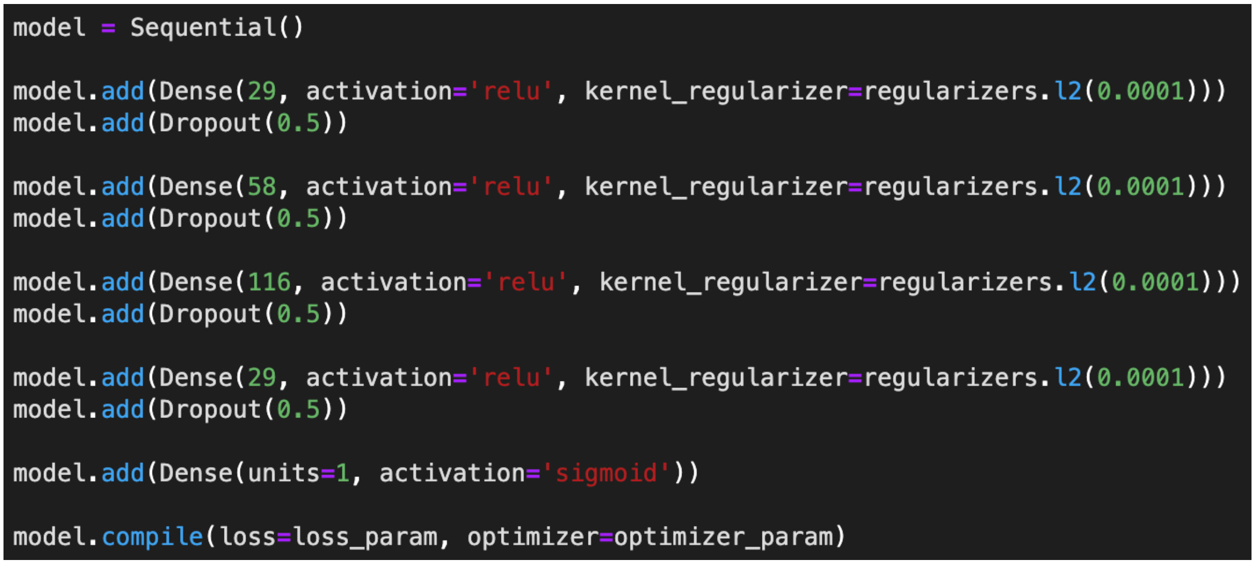
Model 7

Mean Loss: 0.00380475

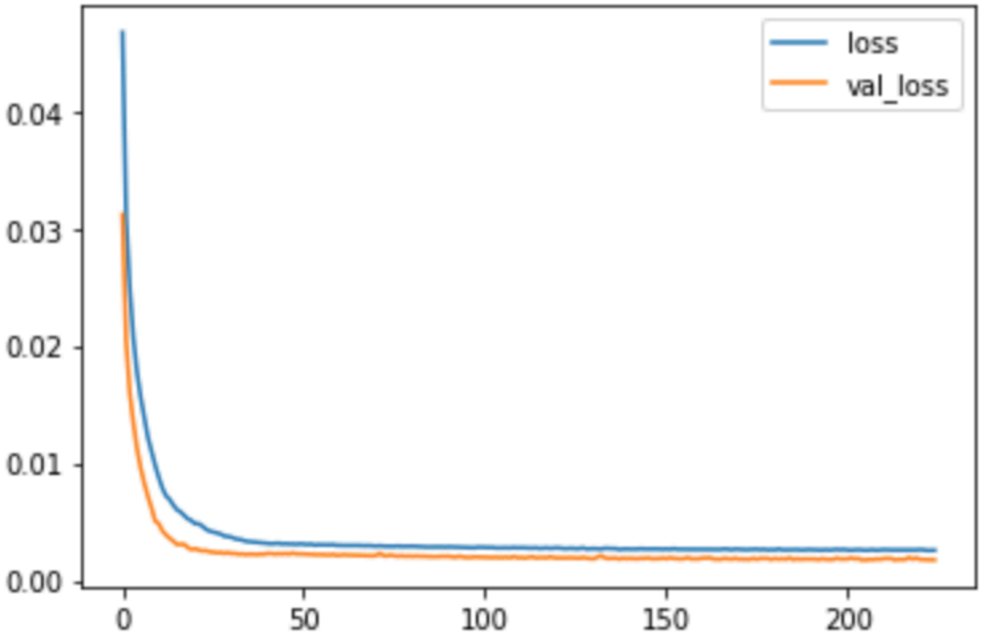
Mean Validation Loss: 0.00254377

Batch Size: 128

Early Stop Patience raised to 20



```
model = Sequential()

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(58, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(units=1, activation='sigmoid'))

model.compile(loss=loss_param, optimizer=optimizer_param)
```



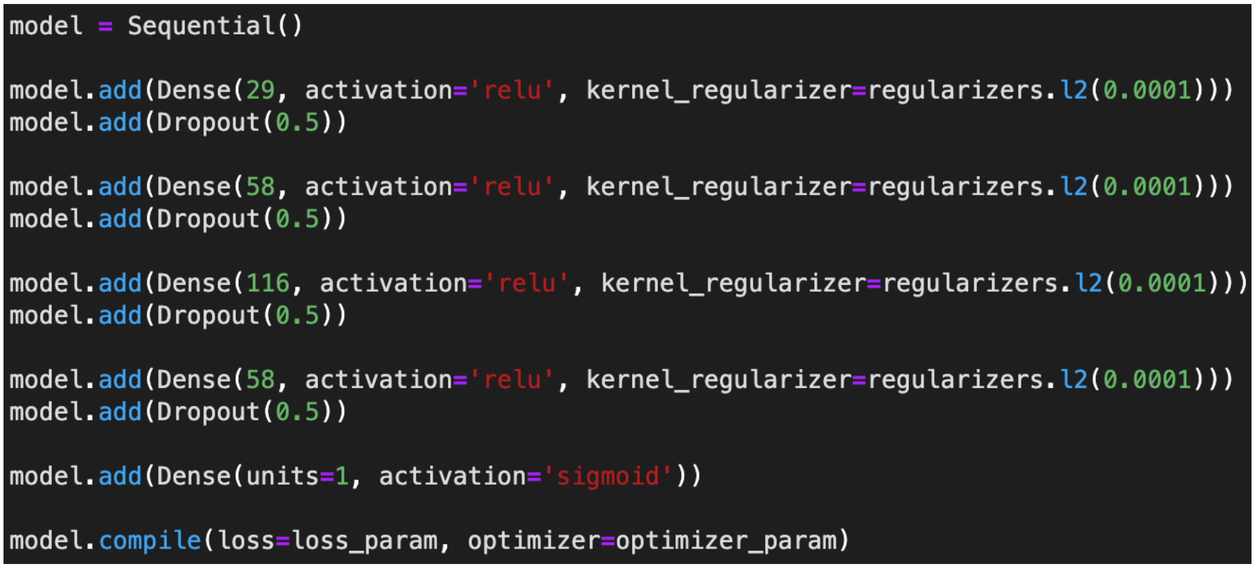
Model 8

Mean Loss: 0.00300474

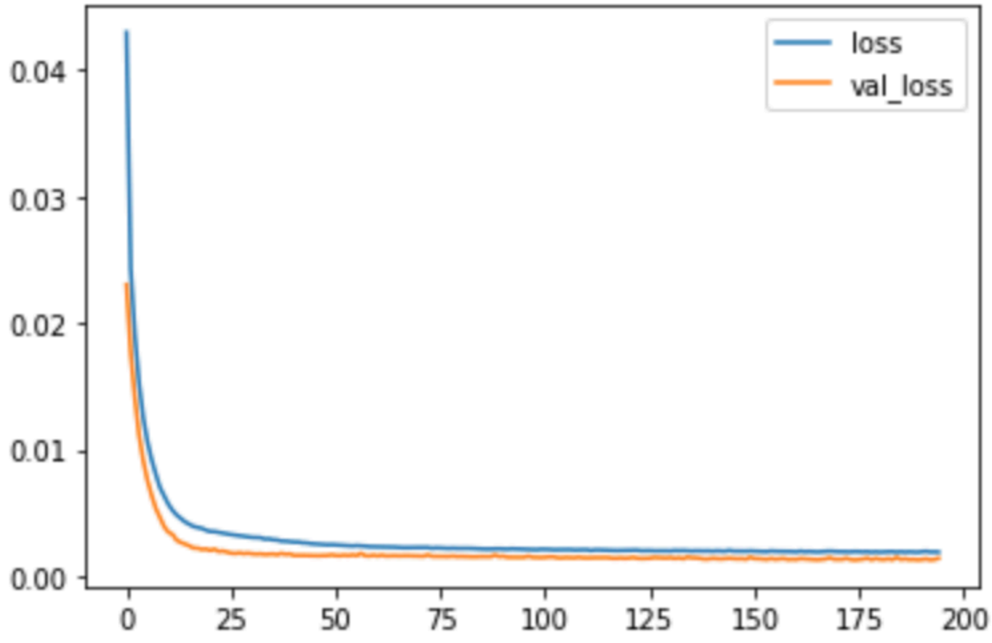
Mean Validation Loss: 0.00200529

Batch Size: 128

Early Stop Patience raised to 20



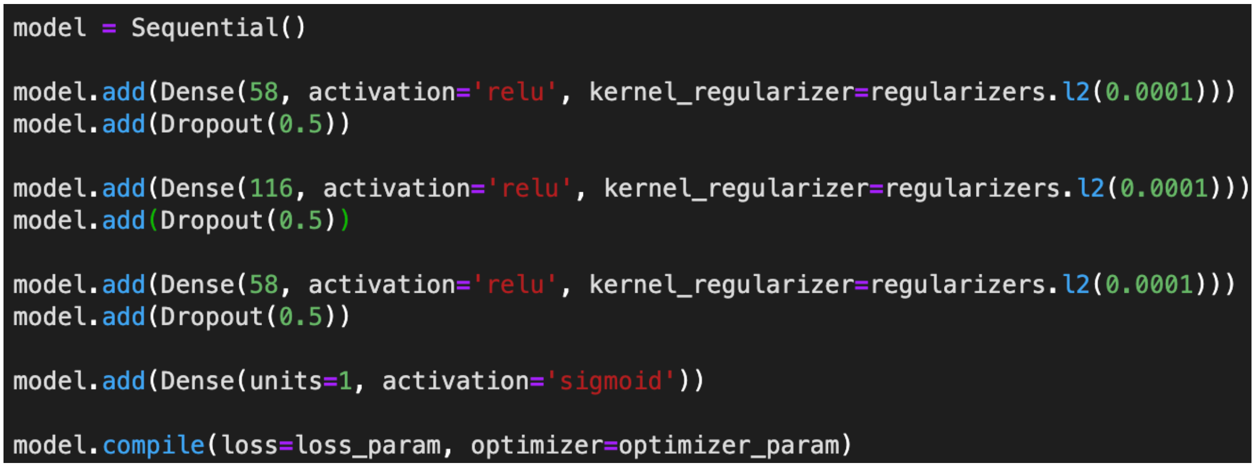
```
model = Sequential()

model.add(Dense(29, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(58, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(58, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(units=1, activation='sigmoid'))

model.compile(loss=loss_param, optimizer=optimizer_param)
```



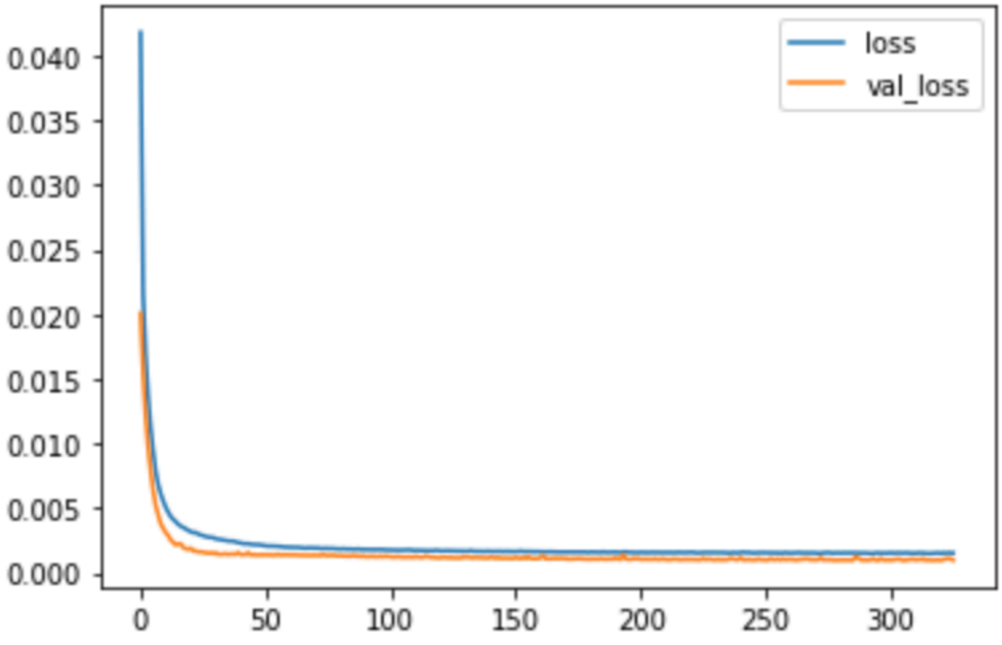
Model 9

Mean Loss:	0.00218654
Mean Validation Loss:	0.00143522
Batch Size:	128

Early Stop Patience raised to 20



```
model = Sequential()

model.add(Dense(58, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(58, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(units=1, activation='sigmoid'))

model.compile(loss=loss_param, optimizer=optimizer_param)
```



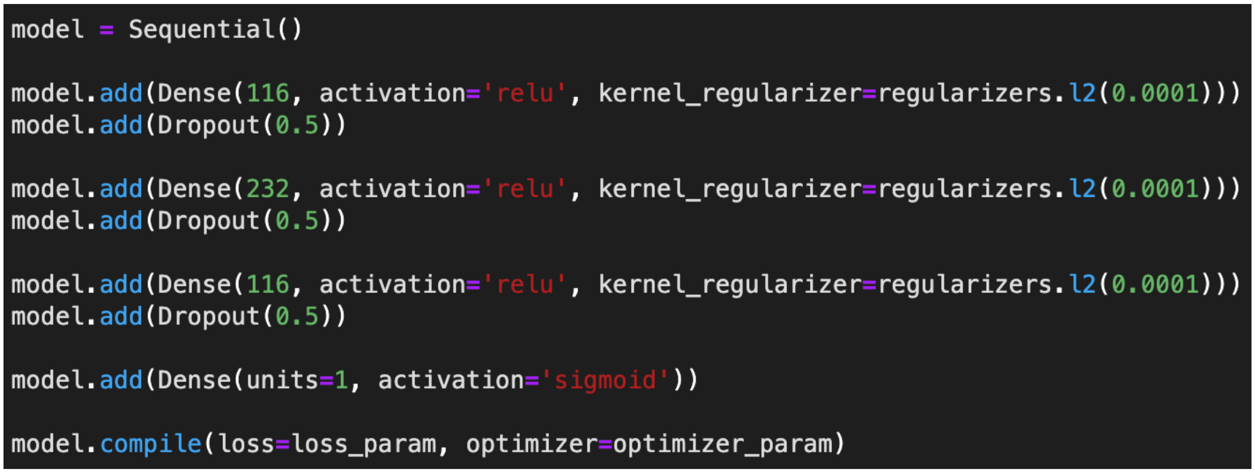
Model 10

Mean Loss: 0.00193549

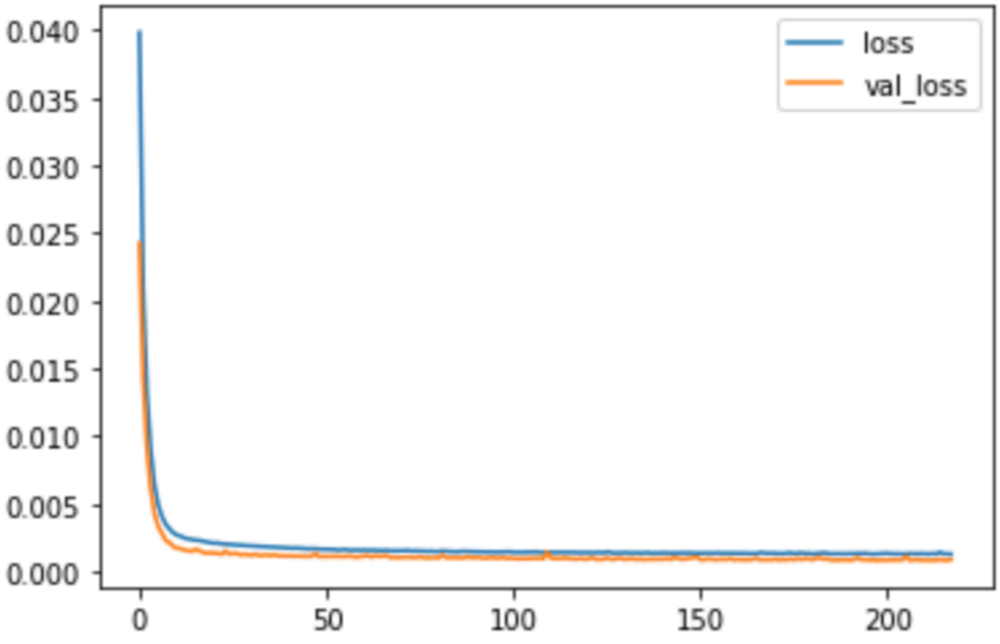
Mean Validation Loss: 0.00129605

Batch Size: 128

Early Stop Patience raised to 20



```
model = Sequential()

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(232, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(units=1, activation='sigmoid'))

model.compile(loss=loss_param, optimizer=optimizer_param)
```



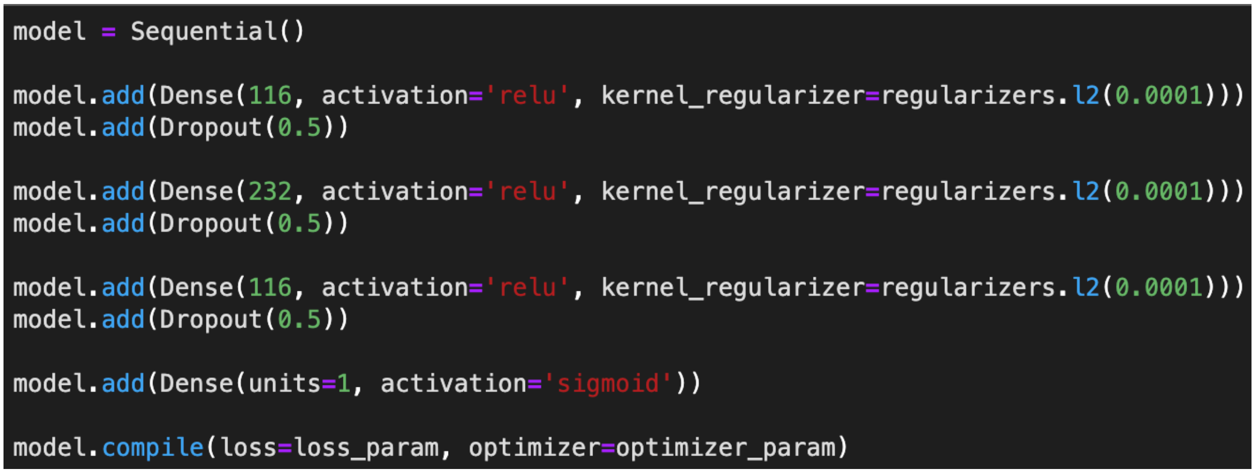
Model 11

Mean Loss: 0.00192912

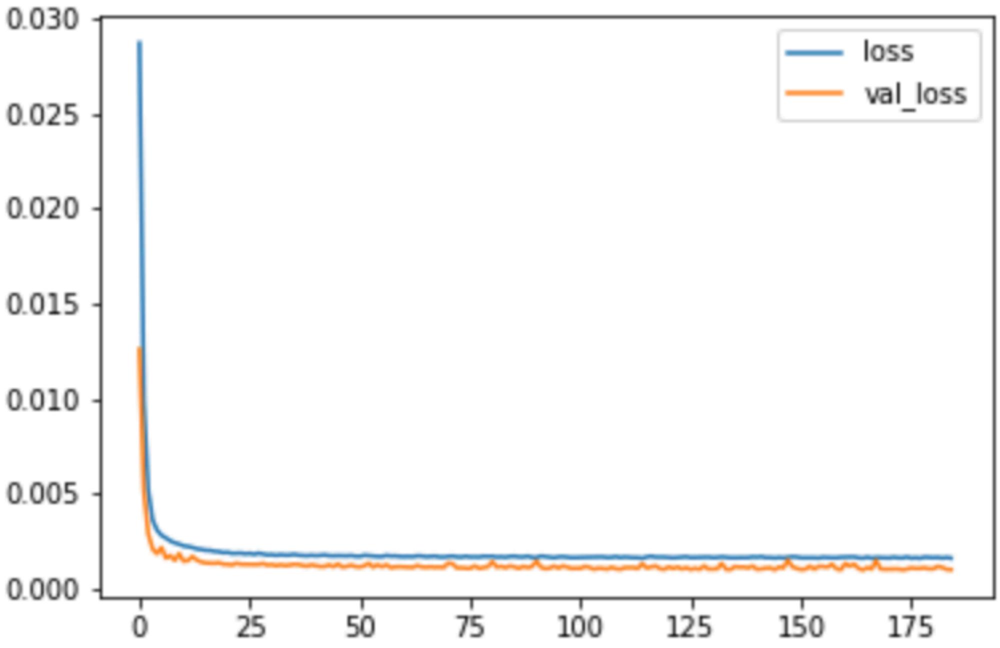
Mean Validation Loss: 0.00125362

Batch Size: 32

The same as model 10 with a smaller batch size



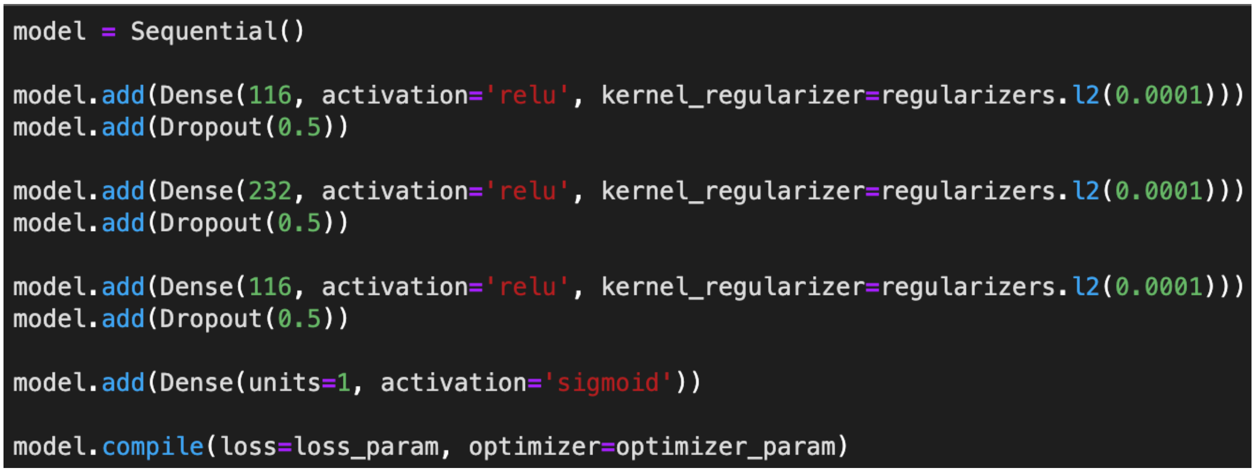
```
model = Sequential()

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(232, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(units=1, activation='sigmoid'))

model.compile(loss=loss_param, optimizer=optimizer_param)
```



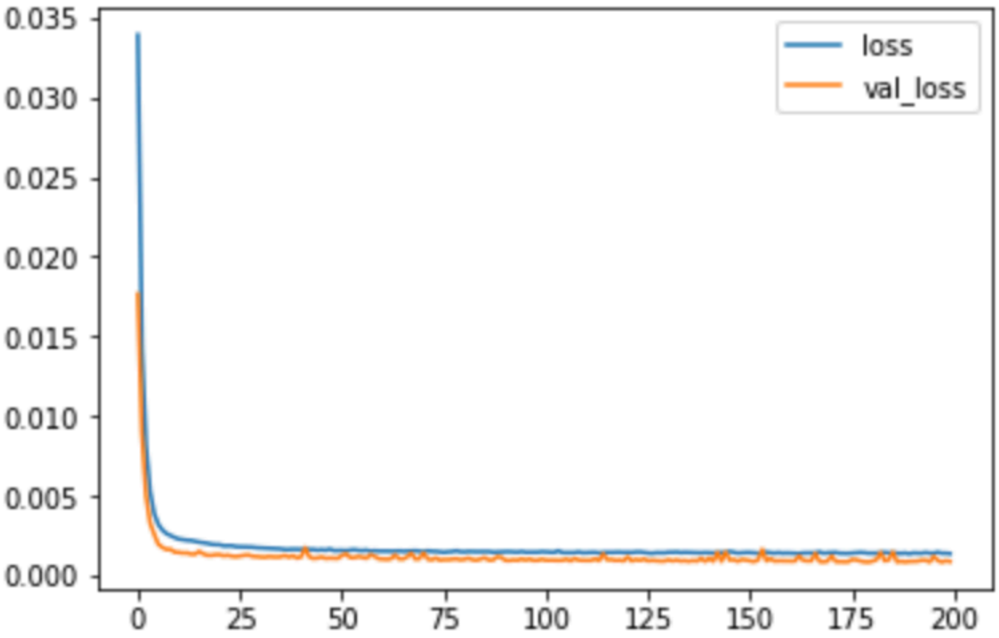
Model 12

Mean Loss:	0.0018555
Mean Validation Loss:	0.00124253
Batch Size:	64

Split the difference on batch size between 10 and 11



```
model = Sequential()

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(232, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(116, activation='relu', kernel_regularizer=regularizers.l2(0.0001)))
model.add(Dropout(0.5))

model.add(Dense(units=1, activation='sigmoid'))

model.compile(loss=loss_param, optimizer=optimizer_param)
```


loss
val_loss