Assignment 2 report

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2)

Epochs	Activation	Dropout	Batchnorm	Accuracy
20	ReLU	Yes	No	53.40%
50	**ELU**	**Yes**	**Yes**	**83.12%**
20	ELU	Yes	Yes	77.56%
20	Tanh	Yes	Yes	67.94%
20	Sigmoid	Yes	Yes	65.44%
50	ReLU	Yes	Yes	81.81%
20	PreLU	Yes	Yes	73.47%
20	ReLU	No	Yes	73.63%
20	ReLU	Yes	Yes	75.04%

Model Architecture:

```
model = Sequential()

Conv2D(32, (3, 3), padding='same', input_shape=x_train.shape[1:])
BatchNormalization()
Activation('elu')

Conv2D(32, (3, 3))
BatchNormalization()
Activation('elu')
MaxPooling2D(pool_size=(2, 2))
Dropout(0.1)

Conv2D(64, (3, 3), padding='same')
BatchNormalization()
Activation('elu')

Conv2D(64, (3, 3))
BatchNormalization()
Activation('elu')
MaxPooling2D(pool_size=(2, 2))
Dropout(0.1)

Flatten()
Dense(512)
```

```
BatchNormalization()
Activation('elu')
Dropout(0.3)

Dense(num_classes)
BatchNormalization()
Activation('softmax')

opt = keras.optimizers.Adam(lr=0.001)
```

I am also using a lr decay scheduler of 0.75 every 10 epochs.