

## Fully connected CNN

Sequential model using convolutional and pooling layers to classify both letters A-Z and numbers 0-9 (#classes = 62)

optimizer: adam

loss: categorical crossentropy

**INPUT**  
28x28 normalized  
grayscale image  
containing a-z,A-Z,0-9

**CONVOLUTION**  
32 filters  
kernel size = (3,3)  
activation = LeakyReLU

**MAXPOOLING**  
pool size = (2,2)  
activation: LeakyReLU

**CONVOLUTION**  
64 filters  
kernel size = (3,3)  
activation = LeakyReLU

**MAXPOOLING**  
pool size = (2,2)  
activation: LeakyReLU

**CONVOLUTION**  
128 filters  
kernel size = (3,3)  
activation = LeakyReLU

**MAXPOOLING**  
pool size = (2,2)  
activation: LeakyReLU

**FLATTEN**  
input:  
(4,4,28)  
output:  
(2048)

**DENSE**  
128 neurons  
activation:  
LeakyReLU

**DENSE**  
62 neurons  
activation:  
softmax

**OUTPUT**  
vector of length 62  
containing probabilities  
for each class