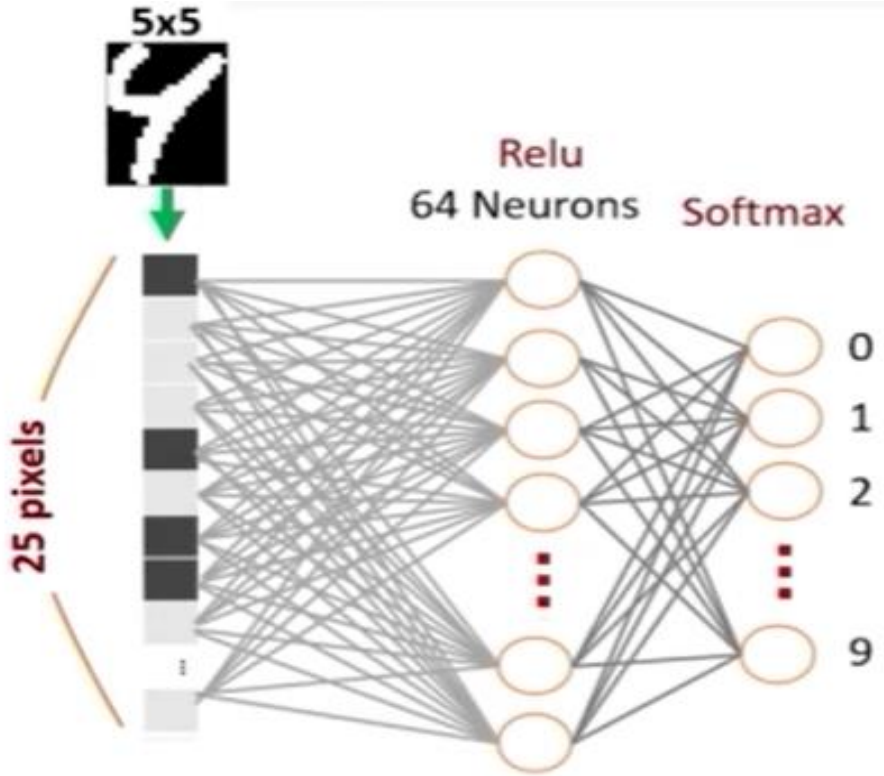
پیاده سازی در کراس

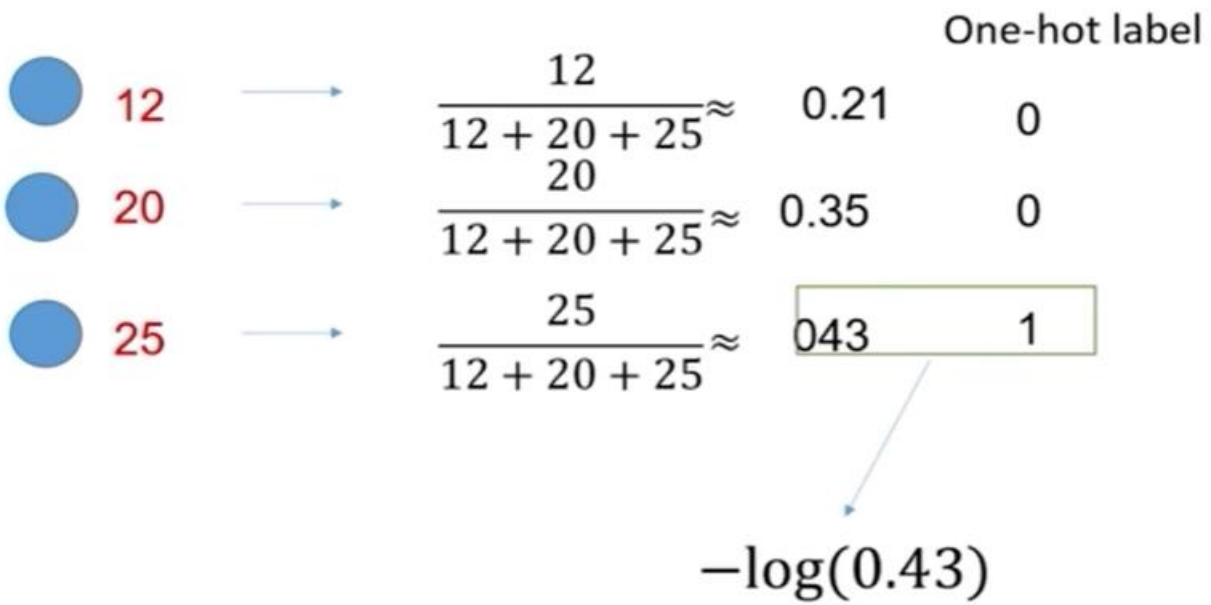
Implementation with Keras!

پیاده سازی در کراس- معماری مدل

```
model = Sequential()
model.add(Dense(64, activation='relu', input_dim=25))
model.add(Dense(10, activation='softmax'))
```



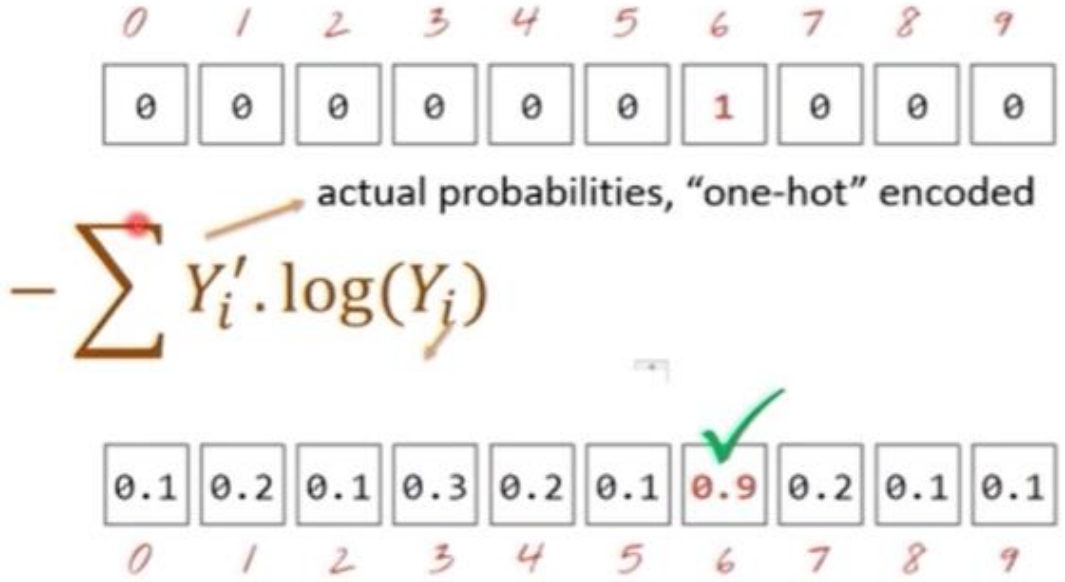
تابع Softmax



$$softmax(L_n) = \frac{e^{L_n}}{||e^L|}$$

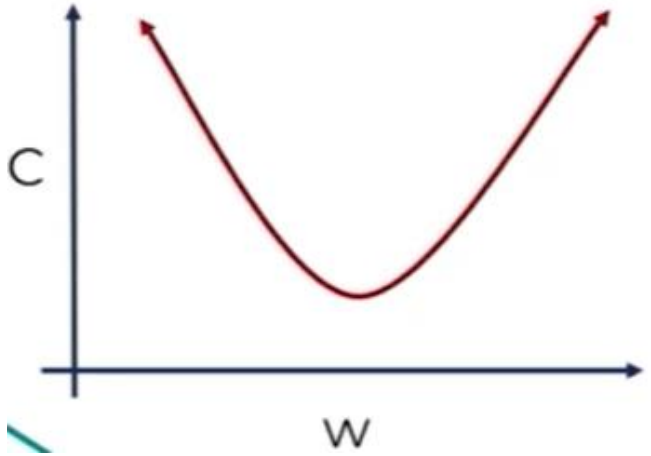
پیاده سازی در کراس- تابع هزینه و بهینه سازی

```
model.compile(loss='categorical_crossentropy',
              optimizer='rmsprop',
              metrics=['accuracy'])
```

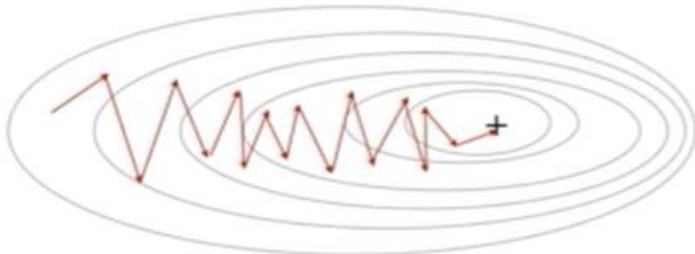


پیاده سازی در کراس:
تعیین داده آموزشی، اندازه mini-batch وتعداد epoch

```
model.fit(x_train, y_train,
          epochs=30,
          batch_size=64)
```



Stochastic Gradient Descent



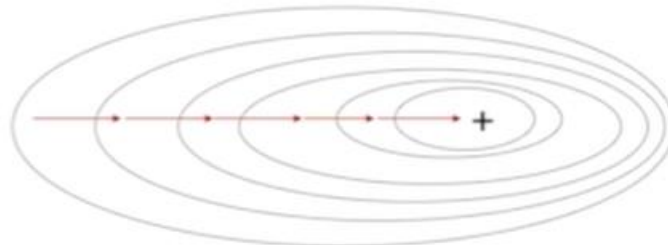
Repeat Until Convergence {

for i = 1...m {

$$\omega \leftarrow \omega - \alpha * \nabla_w L_m(w)$$

}

(Batch) Gradient Descent



Repeat Until Convergence {

$$\omega \leftarrow \omega - \alpha * \nabla_w \sum_1^m L_m(w) \text{ /m}$$

}