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CS462

What is a MaxPooling2D layer? What's it do?
The MaxPooling2D layer is a special type of Convolutional layer that reduces the spatial size of the input to the next layer. It does this by having an internal pooling window that it uses to apply a max operation on the spatial size of the input. It's similar to applying a max operation on a sliding window over a time series.

What's Adam?
The Adam optimizer is a variant of the popular stochastic gradient descent optimizer. It is based on a stochastic approximation of the negative gradient of the loss function.

What does CategoricalCrossEntropy mean?
CategoricalCrossEntropy is a metric for measuring error in classifiers. It's a generalization of the CrossEntropy error metric to multi-class classification. You can think of it as measuring the distance between predicted and true classifications.

In the CNN example, what does the Flatten layer do?
The flatten layer turns a multidimensional array into a one dimensional vevtor, hence flattening or unrolling it so it can be fed to a Neural Network.

In the CNN example, what does the Dense layer do?
A dense layer is a layer of nodes or neurons that is fully connected to the previous layer. This is in contrast to a sparse layer, which is only connected to a few nodes from the previous layer.

In the CNN example, why does the height and width get smaller for each convolutional layer?
With each successive convolutional layer, the spatial size of the input to the next layer is reduced. This is done using a pooling operation. Pooling layers are often implemented by having an internal pooling window that slides over the input, for example applying a max operation on the spatial size of the input. The height and width gets smaller so we can look at the image in different scales and learn new lower level features.