

Full connection

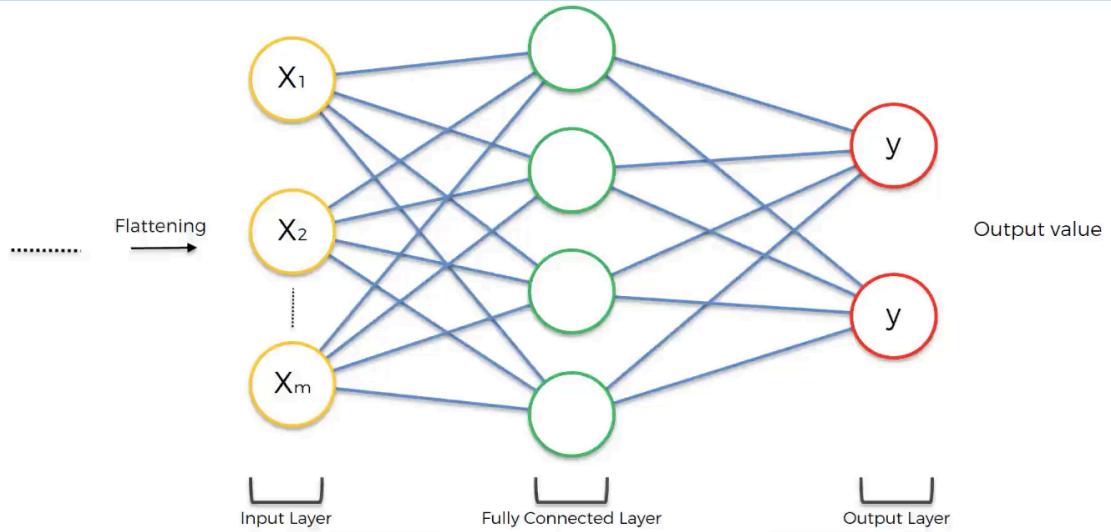


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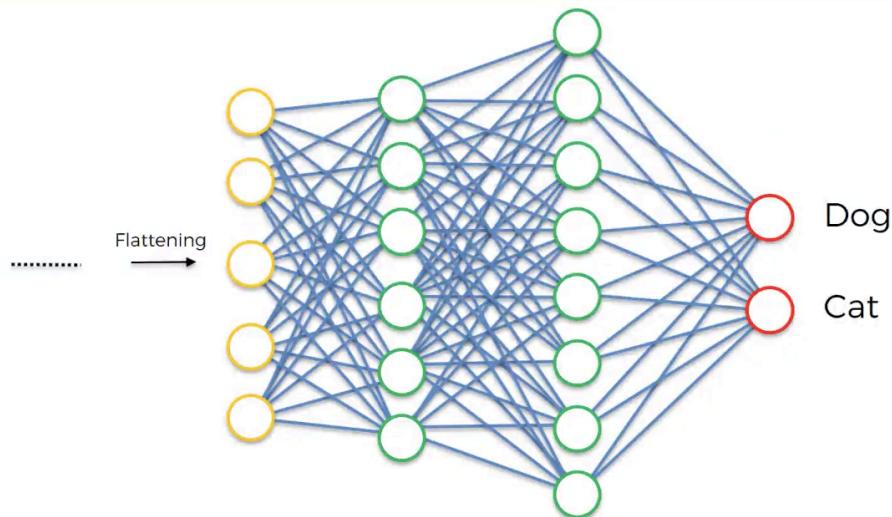
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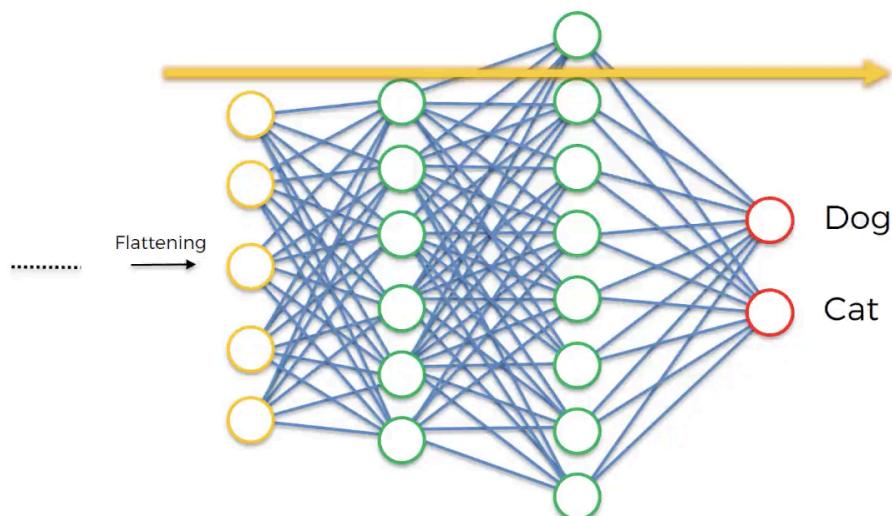
After doing all those steps, we add a ANN at the end.

If you notice the Fully Connected Layer in here was called hidden layer in ANN. This is specific time of hidden layer. Difference: in ANN, it shouldn't be fully connected but CNN it is fully connected.

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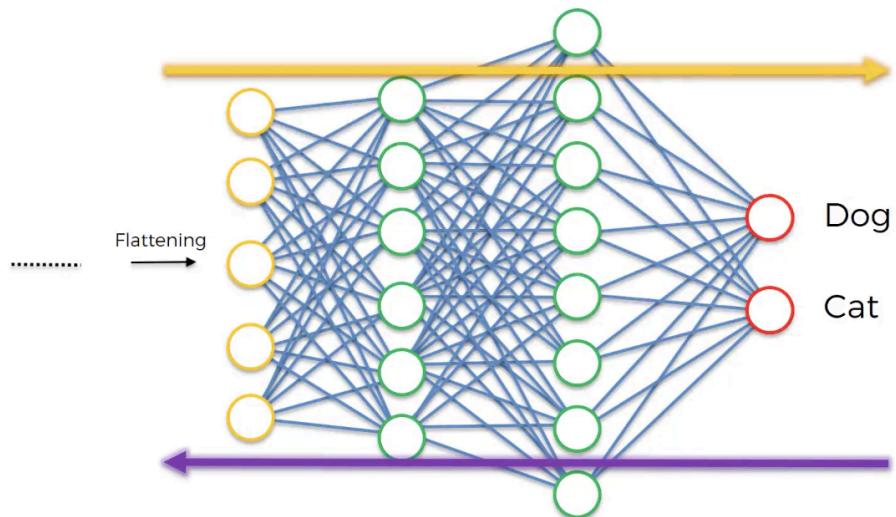


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we are trying to minimize our cost function. So, in here we are calculating the error and then back propagate it through the network just like we had in ANN.  
Afterward our weight is adjusted. And also in here, our feature detector is adjusted.

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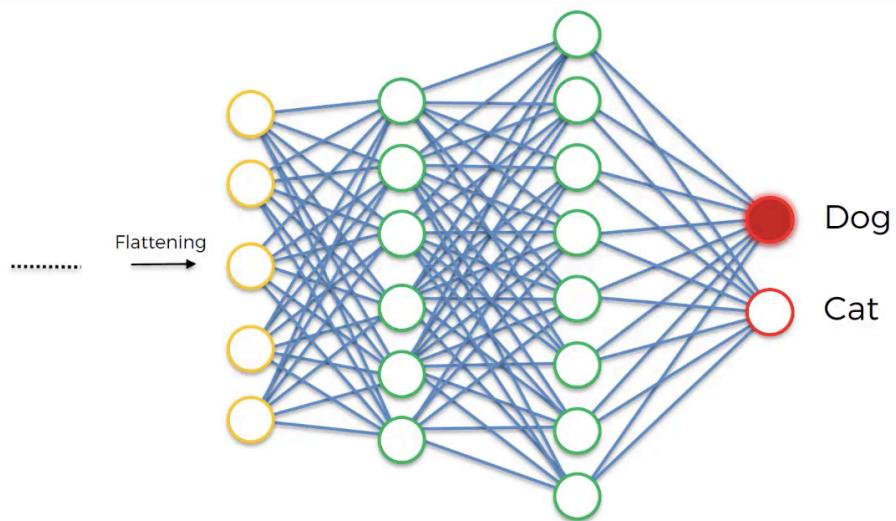


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this circle goes on the loop until our model is optimized.

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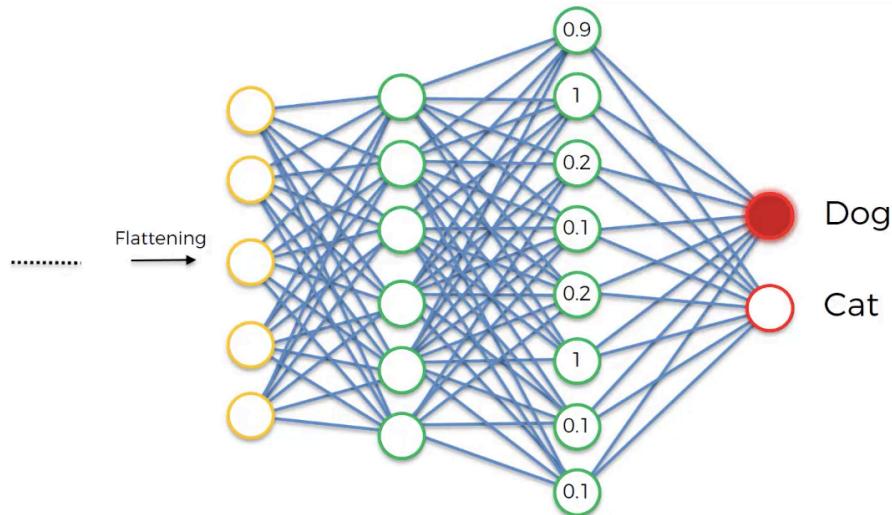


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let's now consider the dog output.

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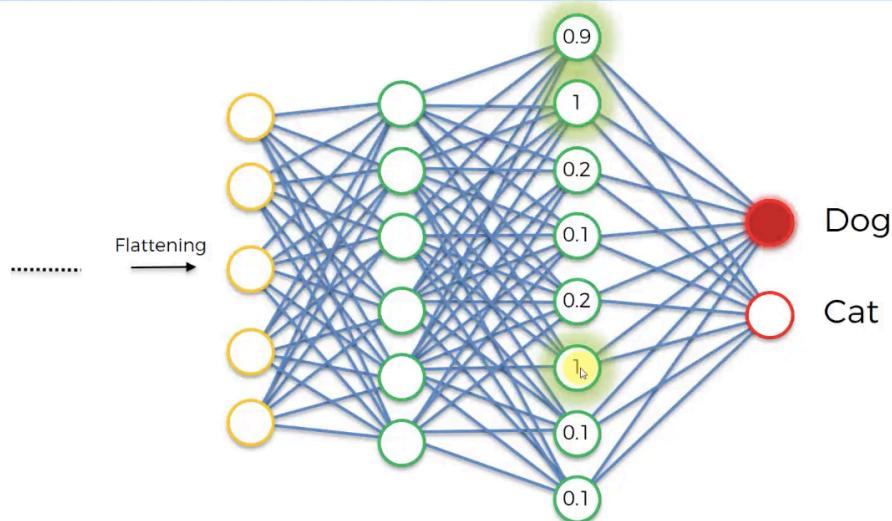
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the number are certain features that are present.

For example, in here number 1 means that it can detecting that specific feature so rapidly.

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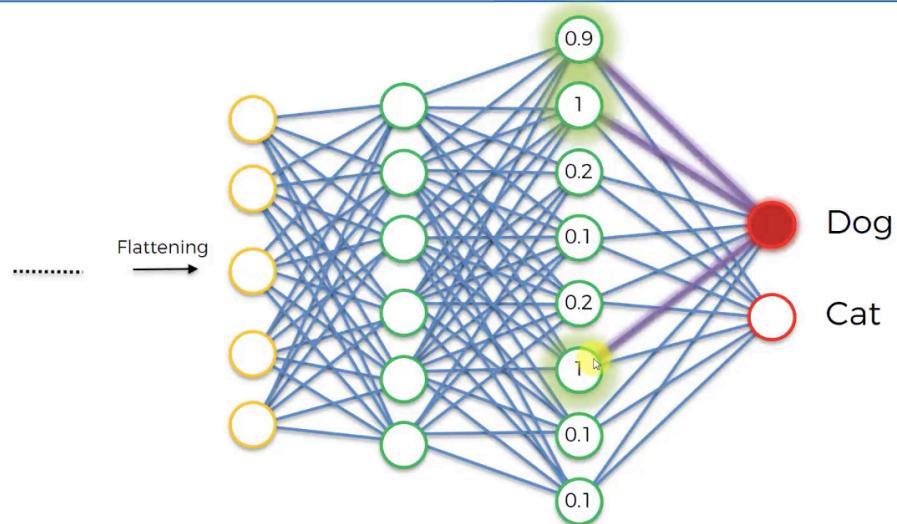


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for example after seeing a picture this three neuron are firing up. Suppose the first one is for big nose neuron, the second one is for eyes neuron, the third one is for floppy ears neuron. Because these three are detecting those features rapidly.

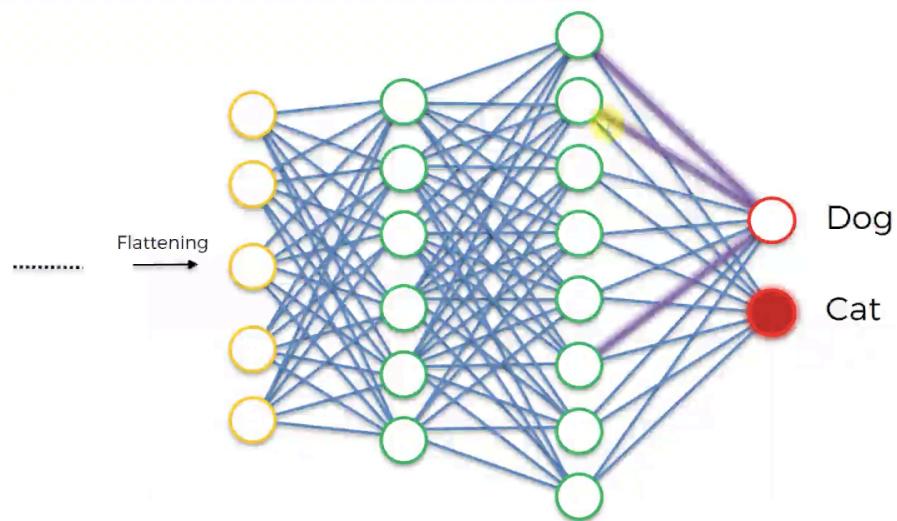
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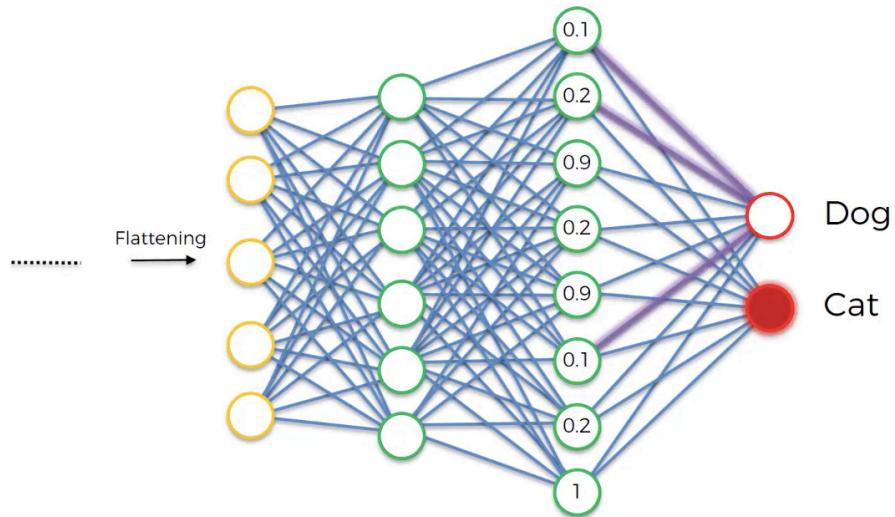
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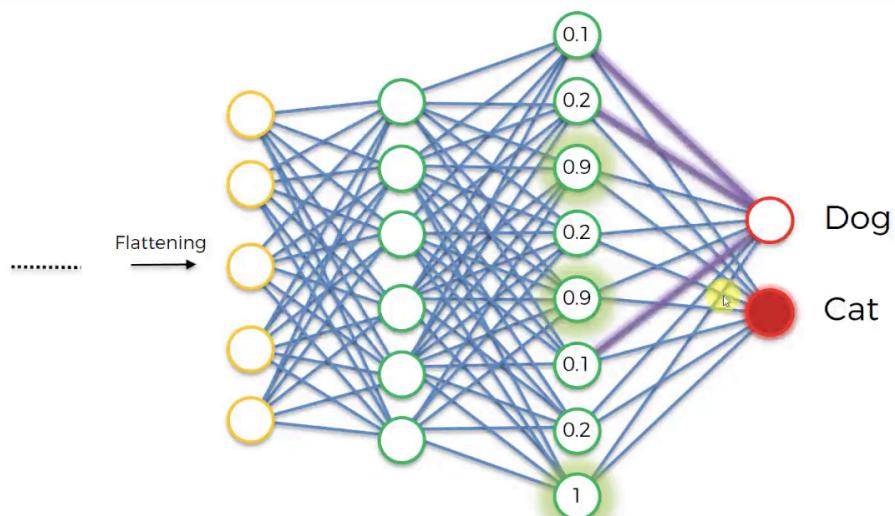
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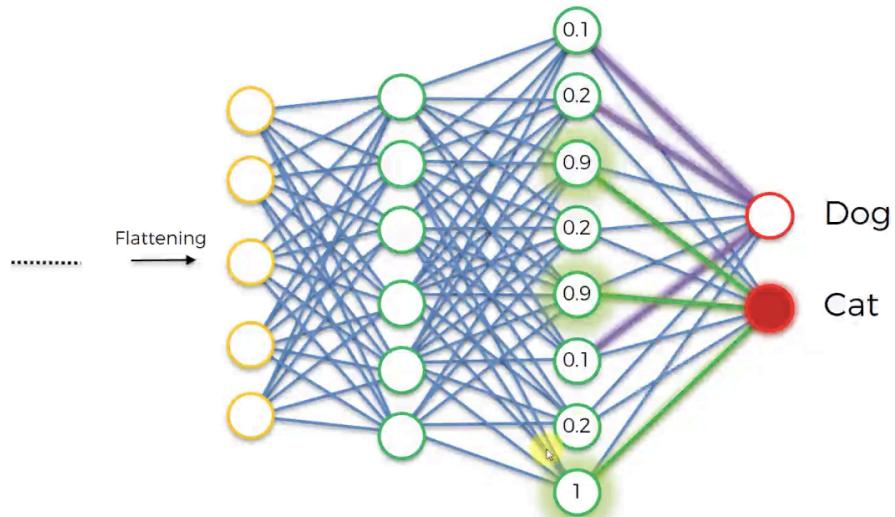


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The cat or dog usually looks at the neurons that fires up and during time it gets reward for looking more to that features.

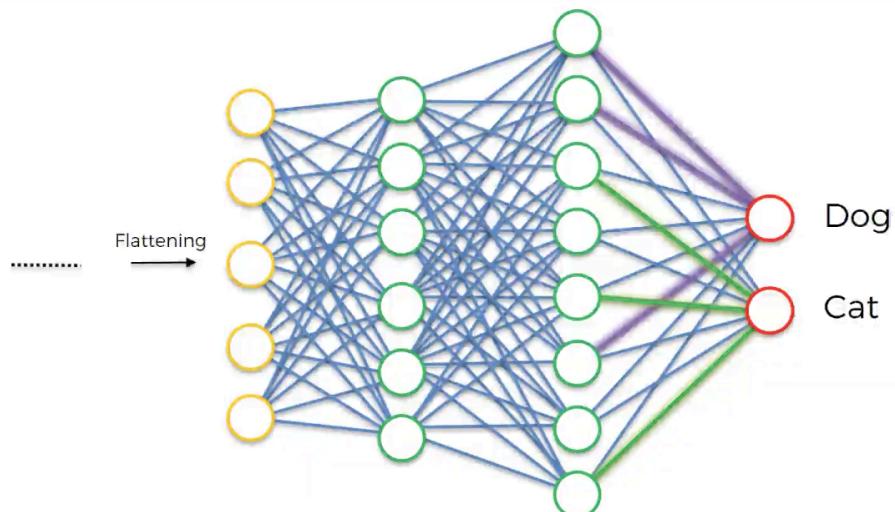
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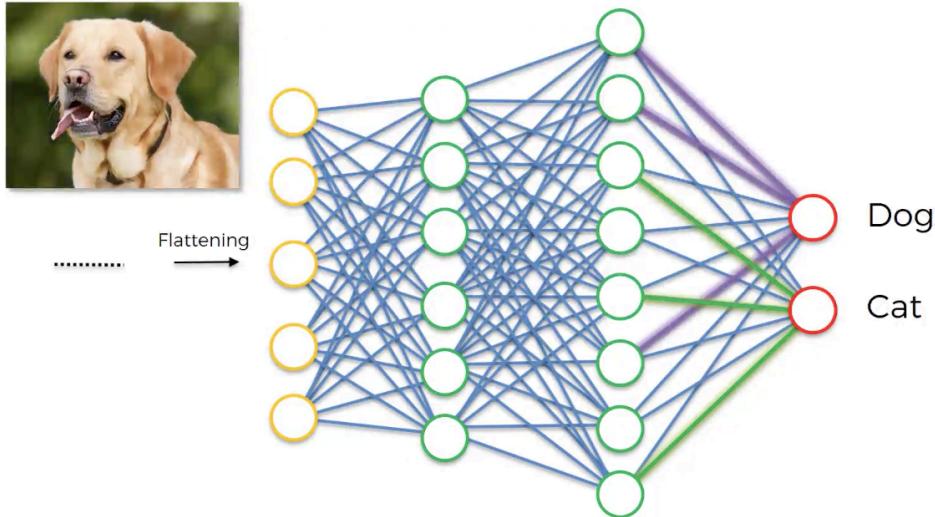


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These final neurons learn which neurons in the final fully connected layer to listen to. In here our feature detector is adjusting every time. So, if there is a useless feature then during time, it will be replaced by another useful feature.

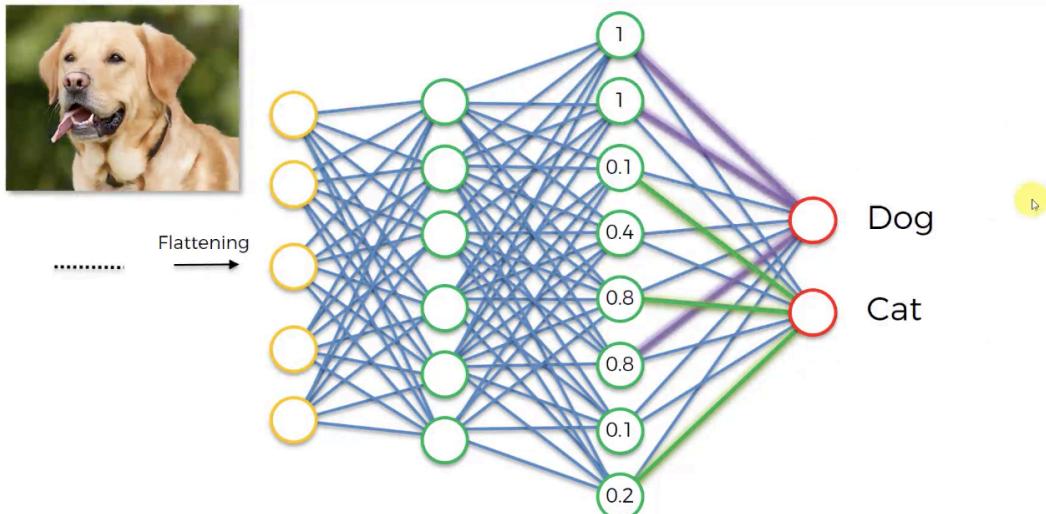
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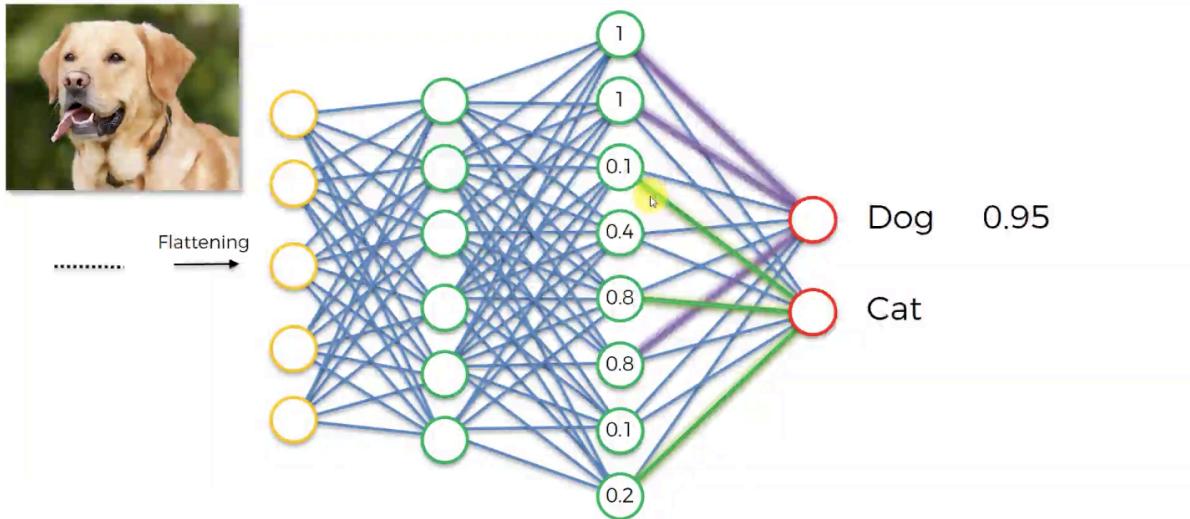
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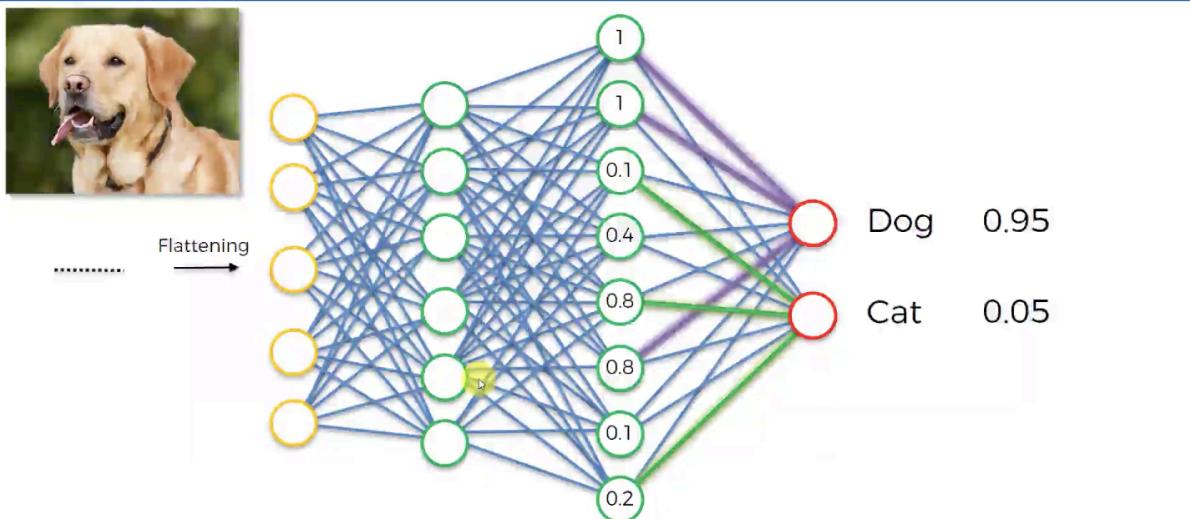
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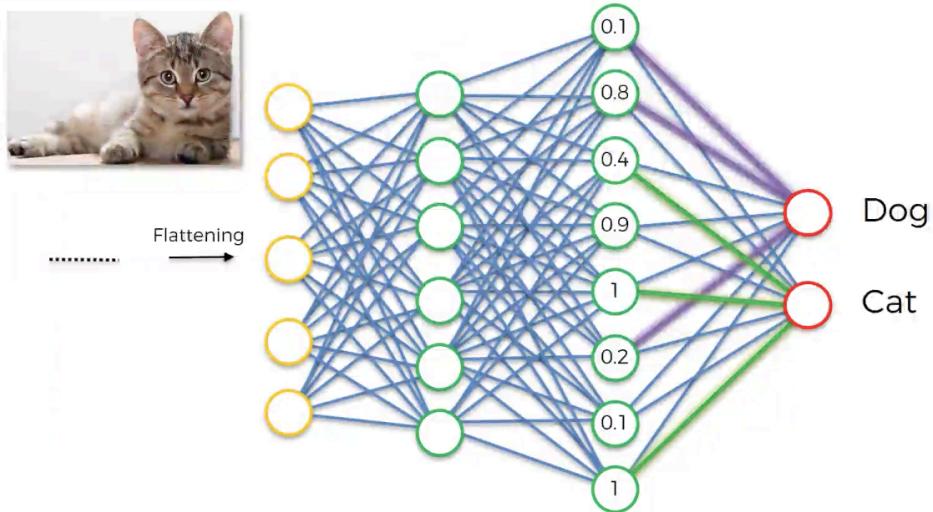
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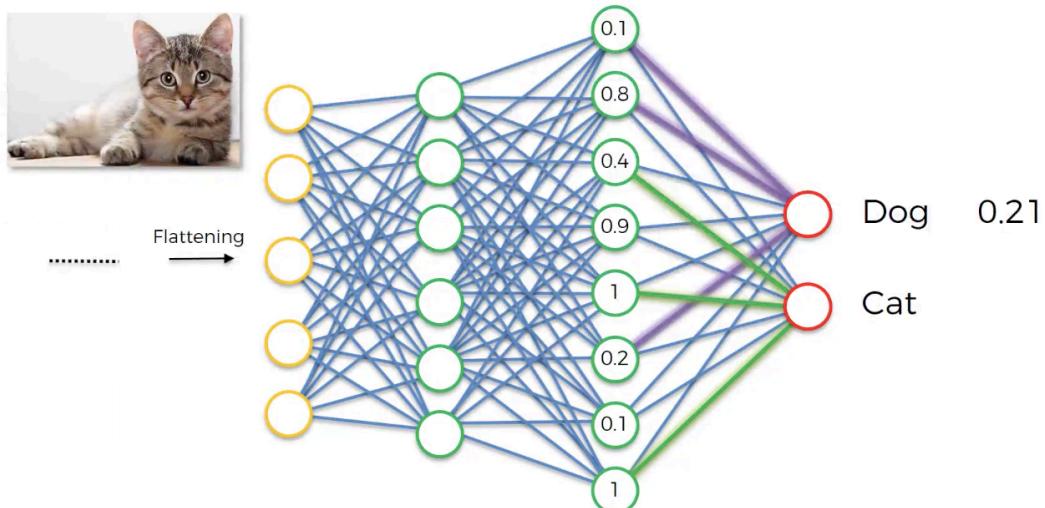
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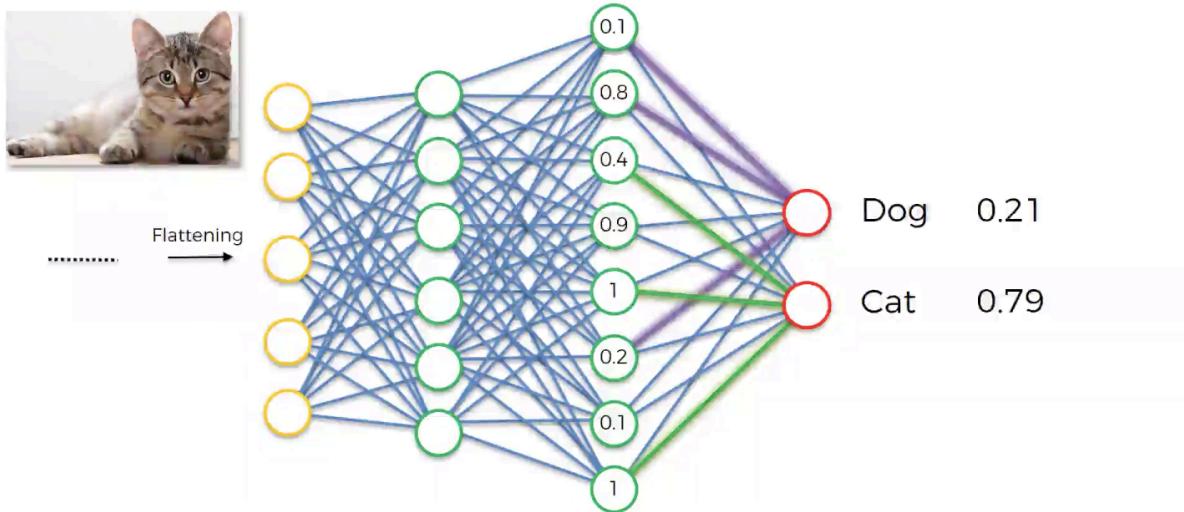
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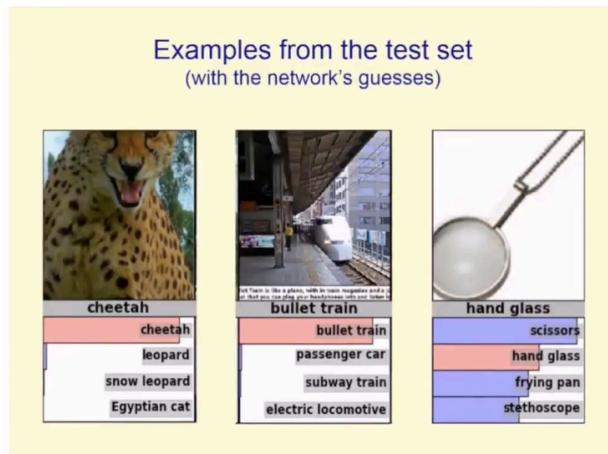


Image Source: a talk by Geoffrey Hinton

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