

Real-time object detection with deep learning and OpenCV [Day 16 of 17]

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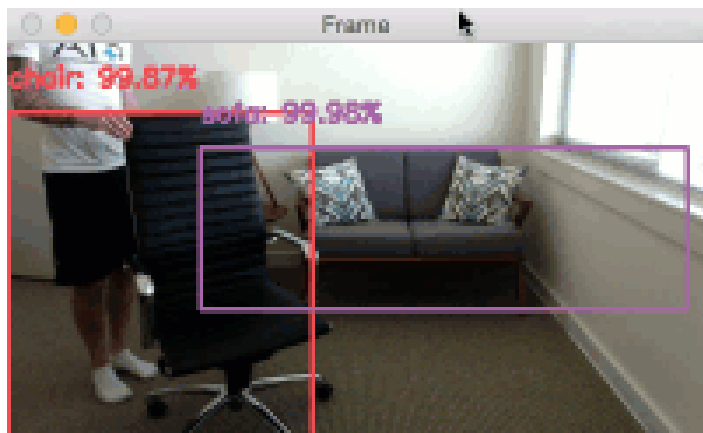
Wow, you've almost completed *the entire crash course*.

Just think for a moment about how much you've learned over the past few weeks — it's pretty impressive!

Well, today's lesson is going to take you on quite a ride — *we're going to dive into real-time object detection*.

Now, you already know how to categorize an image using simple classification — remember when we did that a few days ago? We categorized images as either dog or cat. But that's just the first step. Determining **what** an object **is** doesn't tell us **where** the object resides in an image.

To do that, we need to apply a technique called **object detection**. And as long as we're jumping in, [why not make it fun and do it in real-time on a video stream?](#)



We'll be performing object detection using a pre-trained network, which saves us from having to train our own network from scratch. The downside is that you cannot (easily) update the network to include your own custom classes and labels without applying transfer learning.

If you're interested in learning more about how deep learning-based object detectors work, start by reading [today's lesson](#), and from there, you'll want to refer to [this special guide](#) on the inner workings of deep learning object detectors.

That said, If you think you're ready for the challenge of creating and training your own object detection network, then you really need to take a closer look at [Deep Learning for Computer Vision with Python](#), which covers object detection in great detail — including in-depth tutorials and examples on how to create and train your own custom object detection networks.

You'll get complete, step-by-step examples on how to gather your own training images, label them, and train Faster R-CNNs and Single Shot Detectors (SSDs) from *scratch* on top of your dataset.

And every single lesson follows a *completely logical progression* so that [you can learn at your pace — without the fluff](#).

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