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SDS PODCAST EPISODE 86 FIVE MINUTE FRIDAY: COMPUTER VISION

This is Five Minute Friday episode number 86: Computer Vision.

Hey guys, and welcome back to the SuperDataScience podcast. Very excited about this episode because this week, the week that you're hearing this episode, we finally launched our Kickstarter for a Computer Vision course. This is our third Kickstarter to date. We've already had two successful Kickstarters, one on Deep Learning, and one on Artificial Intelligence, and this week we've moved on to Computer Vision. And I wanted to tell you a little bit about that and what we've been up to in that sense.

So you probably already know that Hadelin and I have been travelling Europe on a roadtrip, meeting students, and connecting with people, and it's been fantastic. But in addition to all of that, we've also been filming our trip. We've been filming specific areas of Europe which we've gone to to get some great footage. We have a drone with us that we carry around, and then whenever we are in a very inspiring, very cool location, we send off the drone. We ask somebody to control it, and we either film some objects, for instance boats or animals, like horses, or sheep, or we even film ourselves for this specific course.

So we wanted to make this course really fun, and what we've done is we've taken lots of footage with the drone, and in the course, and in the promotional video for the course, what we did is we took this footage and then we applied computer vision to that. So that's a pretty cool concept, where we have this footage from really fascinating places in Europe and we've applied computer vision to detect objects. So for instance, to detect the boats, or detect the cars, or detect the horses, or even detect us. To take me and Hadelin in these videos.

And this has been very, very exciting for us, and finally this course is out. So that's what we've been up to. And what I wanted to share here is what computer vision is all about. So we have machine learning, deep learning, artificial intelligence, which are all kind of tied together in this whole

revolution, new industrial revolution that's going on about artificial intelligence and how that is going to impact the world. Well, computer vision is a way to apply deep learning and artificial intelligence to something very practical, to detect objects, detect faces, detect people in images or in videos.

And this is a very, very important step for the development of business, for the development of our world, because this allows for tons of different applications. Everywhere where previously you needed a human to make judgement calls based on vision, now we are slowly getting to a stage where we can use machines to even better make those decisions. For instance, I guess the best example is self-driving cars. You probably know that in the Google self-driving car, they use a LIDAR, so a combination of cameras and a LIDAR device, which is kind of like a laser / radar device which gives more input. But in the Tesla self-driving functionality, they only use cameras. I think they have like a dozen or so cameras around the car, and they just look at the images from these cameras, the videos, and they can detect what's going on, is this a pedestrian, is this a bicycle, and so on, and then the car can make decisions based on that.

So that's just one example out of myriads and myriads of examples where you can use computer vision. And why computer vision is so powerful is because it is the easiest way to disrupt businesses, to disrupt industries, to drive change. You just need to think of ways where businesses are not using machines to process this visual information in which they could be doing that. And once that's happened, then you can use computer vision.

Another good example of computer vision is when faces are detected on Facebook. You know, you upload your photo, 5 years ago, it used to be you upload a photo and you have to tag yourself and your friends. Now, it's become so natural that you upload the photo, and automatically, you are tagged because you can detect what you look like, your friends are tagged,

and everybody's name is pretty much always correct. Sometimes it might make a mistake, but most of the time, it's correct. So you can see how that's really increasing efficiency of you dealing with Facebook and adding this little perk to your Facebook account, which is really cool.

So that's what computer vision is all about. And of course, we invite you to check out our Kickstarter. You can find it using the link in the show notes for this episode, or through just go to Kickstarter and type in "Computer vision", you'll find the Kickstarter there. It's running now. It's only going to be running for 21 days, so I think it's got about 17 or 18 days left at this point. And even if you're not interested in learning about computer vision, and participating in this Kickstarter, still I would highly recommend checking it out, because we record a pretty cool promotional video, as you can imagine from all that footage. And just for the sake of it, you can check out the video. I would love for you to see it and just to – I don't know, I think it's very inspiring, with all the different elements, all the different views and perspectives, and you can actually see computer vision being applied to that footage.

So, all in all, very excited about this, and I think computer vision is going to really empower a lot of people around the world to make things better. Make businesses more efficient, build new businesses, build new products, build new solutions. And finally, I forgot to mention. I was thinking, "What did I forget to mention?" I forgot to mention that in this specific course, for those of you, of course, who are interested in finding more about computer vision, we decided to specifically structure it in a certain way, that in the course, we are going to be providing not just the course itself, but it's going to come with a software package, or a software platform. It's going to be pre-packaged with a software platform, which is a virtual machine which you download.

And basically, speaking of empowering, what we want to do is we want to allow people to just download this virtual machine, install it on your computer, and there, inside, you already have all of the tools that you need. You already have Python installed, you already have the libraries installed, you already have the pre-coded templates in there that we provide, that we will be coding in the course. You will take the course and you code them, but you will also have them already ready in this pre-packaged solution if you just want to get straight to the fun stuff, and straight to the computer vision.

And you will even have not just the pre-coded template. You will have the pre-trained algorithms. So if you don't have a powerful computer, because that's been a roadblock for many people, that they don't have powerful computers, and it's harder to train a model. It could take a day, or a few days, to train a complex computer vision model, but we're going to have pre-trained models in there. That's our plan. It's a Kickstarter pledge. So we're still working on it. But we'll have pre-trained model algorithms in there so that you can actually just plug and play. So basically, you don't even have to train the algorithm. It can already detect things for you.

And of course, we're going to have lots of other fun stuff, like facial recognition, and things like that. And style transfer, and so on. So, as we always do, some of the top cutting tool techniques. But the main thing, I think, and this is actually Hadelin's idea, that first of all, we're going to have the course, but also, in addition, we're going to have the software packaged solution, which will help people plug and play. And that way, you can even quicker get to the business, brainstorming, disrupting business, or coming up with disruptive ideas, and actually using these tools in practice.

So that's what we've been up to, and we're very, very excited about it. And once again, I hope you check it out. Even if it's just for the sake of watching

that video that we recorded for computer vision. And yeah, I hope to see you there. Until next time, happy analyzing.