

Why ML Strategy

(SPEECH)

Hi,

(DESCRIPTION)

Concentric circular logo. Text, Introduction to ML strategy. Why ML Strategy?

(SPEECH)

welcome to this course on how to structure your machine learning project, that is on machine learning strategy.

I hope that through this course you will learn how to much more quickly and efficiently get your machine learning systems working.

So, what is machine learning strategy.

Let's start with a motivating example.

Let's

(DESCRIPTION)

Pictures of a cat, bird, yellow cat, chick, another chick, and another cat appear. Text, motivating example.

(SPEECH)

say you are working on your cat cost file.

And after working it for some time, you've gotten your system to have 90% accuracy, but this isn't good enough for your application.

You might then have a lot of ideas as to how to improve your system.

For example, you might think well let's collect more data, more training data.

Or you might say, maybe your training set isn't diverse enough yet, you should collect images of cats in more diverse poses, or maybe a more diverse set of negative examples.

Well maybe you want to train the algorithm longer with gradient descent.

Or maybe you want to try a different optimization algorithm, like the Adam optimization algorithm.

Or maybe trying a bigger network or a smaller network or maybe you want to try to dropout or maybe L2 regularization.

Or maybe you want to change the network architecture such as changing activation functions, changing the number of hidden units and so on and so on.

When

(DESCRIPTION)

Text, Ideas. Collect more data. Collect more diverse training set. Train algorithm longer with gradient descent. Try Adam instead of gradient descent. Try bigger network. Try smaller network. Try dropout. Add L two regularization. Network architecture. Activation functions. Number hidden units. Andrew Ng.

(SPEECH)

trying to improve a deep learning system, you often have a lot of ideas or things you could try.

And the problem is that if you choose poorly, it is entirely possible that you end up spending six months charging in some direction only to realize after six months that that didn't do any good.

For example, I've seen some teams spend literally six months collecting more data only to realize after six months that it barely improved the performance of their system.

So, assuming you don't have six months to waste on your problem, won't it be nice if you had quick and effective ways to figure out which of all of these ideas and maybe even other ideas, are worth pursuing and which ones you can safely discard.

So

(DESCRIPTION)

Man stands in front of computer that sits on desk.

(SPEECH)

what I hope to do in this course is teach you a number of strategies, that is, ways of analyzing a machine learning problem that will point you in the direction of the most promising things to try.

What I will do in this course also is share with you a number of lessons I've learned through building and shipping large number of deep learning products.

And I think these materials are actually quite unique to this course.

I don't see a lot of these ideas being taught in universities' deep learning courses for example.

It turns out also that machine learning strategy is changing in the era of deep learning because the things you could do are now different with deep learning algorithms than with previous generation of machine learning algorithms.

I hope that these ideas will help you become much more effective at getting your deep learning systems to work.