



Learning Machine Learning Artificial Neural Networks +3

How do I learn deep learning in 2 months?

Answer

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24 Answers



Jeremy Howard, Past President @ Kaggle

Answered Dec 28, 2016

I created a course (free, no ads) that is designed to get you to the point that you can apply best practices in deep learning after 70 hours of study (assuming that you have at least a year of coding background). Here's the course: [Practical Deep Learning For Coders](#) . The original course was taught in person at USF, and had about 100 participants; nearly everyone who started it completed it, and many of the students are now working on their own deep learning based projects.

(If you're interested in hearing what previous participants thought, you can read some of [their feedback here](#) .)

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Recommended All



Vivek Kumar, Working on audio, computer vision and deep learning

Updated Mar 22 · Upvoted by [Rahul Bohare, M.S. Machine Learning & Robotics, Technical University of Munich \(2018\)](#) and [Nikhil Badugu, M.S Computer Science & Machine Learning, Northeastern University](#)

If you have coding experience with an engineering background or relevant knowledge in mathematics and computer science, in just two months you can become proficient in deep learning. Hard to believe? Here's a four-step process that makes it possible.

For more inspiration check out the following video by Andrew Ng

Step 1: Learn Machine Learning Basics *(Optional, but highly recommended)*

Start with Andrew Ng's Class on machine learning [Machine Learning - Stanford University | Coursera](#) . His course provides an introduction to the various Machine Learning algorithms currently out there and, more importantly, the general procedures and methods for machine learning, including data preprocessing, hyper-parameter tuning, and more.

I would also recommend reading the [NIPS 2015 Deep Learning Tutorial](#) by Geoff Hinton, Yoshua Bengio, and Yann LeCun, which offers an introduction at a slightly lower level.

Step 2: Dig into Deep Learning

My personal learning preference is to watch lecture videos, and there are several excellent courses online. Here are few classes I especially like and can recommend:

- [Deep learning at Oxford 2015](#) Taught by Nando de Freitas who expertly explains the basics, without overcomplicating it. Start with Lectures 9 if you are already familiar with Neural Networks and want to go deep. He uses Torch framework in his examples. ([Videos on Youtube](#))
- [Neural Networks for Machine Learning](#) : Geoffrey Hinton's class on Coursera. Hinton is an excellent researcher who demonstrated the use of generalized [backpropagation](#) algorithm and was crucial to the development of [deep learning](#) . I have utmost respect for him, but I found the delivery of this course bit unorganized. Furthermore, coursera messes up with the placement of quizzes.
- [Neural Networks Class](#) by Hugo Larochelle: Another excellent course

If you are more into books, here are some excellent resources. Go ahead and check them out, I won't judge.

- [Neural Networks and Deep Learning Book](#) by [Michael Nielsen's](#) : Online book and has several interactive JavaScript elements to play with.
- [Deep Learning Book](#) by Ian Goodfellow, Yoshua Bengio and Aaron Courville: Bit denser but never the less a great resource

Step 3: Pick a focus area and go deeper

Identify what you are passionate about and go deeper. The field is vast, so this list is in no way a comprehensive list.

- **Computer vision** : Deep learning has transformed this area. Stanford's CS231N course by Andrej Karpathy's course is the best course I have come across; [CS231n Convolutional Neural Networks for Visual Recognition](#) . It teaches you the basics and up to convnets, as well as helping you to set up GPU instance in AWS. Also, check out [Getting Started in Computer Vision](#) by [Mostafa S. Ibrahim](#)
- **Natural Language Processing (NLP)** : Used for machine translation, question and answering, sentiment analysis. To master this field, an in-depth understanding of both algorithms and the underlying computational properties of natural languages is needed. [CS 224N / Ling 284](#) by [Christopher Manning](#) is a great course to get started. [CS224d: Deep Learning for Natural Language Processing](#) , another Stanford class by David Socher (founder of [MetaMind](#)) is also an excellent course which goes over all the latest Deep learning research related to NLP. For more details see [How do I learn Natural Language Processing?](#)
- **Memory Network (RNN-LSTM)** : Recent work in combining attention mechanism in LSTM Recurrent Neural networks with external writable memory has meant some interesting work in building systems that can understand, store and retrieve information in a question & answering style. This research area got its start in Dr. Yann Lecun's Facebook AI lab at NYU. The original paper is on arxiv: [Memory Networks](#) . There're many research variants, datasets, benchmarks, etc that have stemmed from this work, for example, Metamind's [Dynamic Memory Networks for Natural Language Processing](#)

Silver's (Google Deepmind) [Video Lectures on RL](#) and Professor [Rich Sutton's Book](#) is a great place to start. For a gentle introduction to LSTM see Christopher's post on [Understanding LSTM networks](#) & Andrej Karpathy's [The Unreasonable Effectiveness of Recurrent Neural Networks](#)

- **Generative Models:** While discriminatory models try to detect, identify and separate things, they end up looking for features which differentiate and do not understand data at a fundamental level. Apart from the short-term applications, generative models provide the potential to automatically learn natural features; categories or dimensions or something else entirely. Out of the three commonly used generative models—[Generative Adversarial Networks \(GANs\)](#), [Variational Autoencoders \(VAEs\)](#) and Autoregressive models (such as [PixelRNN](#)), GAN's are most popular. To dig deeper read
 - [Original GAN paper by Ian Goodfellow et al](#).
 - The [Laplacian Adversarial Networks \(LAPGAN\) Paper](#) (LAPGAN) which fixed the stability issue
 - [The Deep Convolutional Generative Adversarial Networks \(DCGAN\) paper](#) and [DCGAN Code](#) which can be used to learn a hierarchy of features without any supervision. Also, check out [DCGAN used for Image Superresolution](#)

Step 4: Build Something

Doing is key to becoming an expert. Try to build something which interests you and matches your skill level. Here are a few suggestions to get you thinking:

- As is tradition, start with classifying the [MNIST dataset](#)
- Try face detection and classification on [ImageNet](#). If you are up to it, do the [ImageNet Challenge 2016](#).
- Do a Twitter sentiment analysis using [RNNs](#) or [CNNs](#)
- Teach neural networks to reproduce the artistic style of famous painters ([A Neural Algorithm of Artistic Style](#))
- [Compose Music With Recurrent Neural Networks](#)
- [Play ping-pong using Deep Reinforcement Learning](#)
- Use [Neural Networks to Rate a selfie](#)

Also keep an eye on the Kaggle and HackerRank competitions for fun stuff and the opportunities to compete and learn.

Additional Resources

Here are some pointers to help you with continuous learning

- Read some excellent blogs. Both [Christopher Olah's blog](#) & [Andrew Karpathy's Blog](#) do a great job of explaining basic concepts and recent breakthroughs
- Follow influencers on Twitter. Here are a few to get started @drfeifei, @ylecun, @karpathy, @AndrewYNg, @Kdnuggets, @OpenAI, @googleresearch. (see: [Who to follow on Twitter for machine learning information ?](#))
- [Google+ Deep Learning Community](#) Page, by Yann Lecun, is a good way to keeping in touch with innovations in deep learning as well as communicating with other deep learning professionals and enthusiasts.

See [ChristosChristofidis/awesome-deep-learning](#), a curated list of awesome Deep Learning tutorials, projects and communities for more fun.

203.2k Views · 1,995 Upvotes

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Recommended **All**



Parag K Mital, Director of Machine Intelligence at Kadenze, Inc.

Answered Jan 10

We've just launched a new course on Tensorflow: [Creative Applications of Deep Learning with TensorFlow | Kadenze](#)

Unlike other courses, this is an application-led course, teaching you fundamentals of Tensorflow as well as state-of-the-art algorithms by encouraging exploration through the development of creative thinking and creative applications of deep neural networks. We've already built a very strong community with an active forum and Slack, where students are able to ask each other questions and learn from each others approaches on the homework. I highly encourage you to try this course. There are plenty of *GREAT* resources for learning Tensorflow. But this is the only

Course Information:

This course introduces you to deep learning: the state-of-the-art approach to building artificial intelligence algorithms. We cover the basic components of deep learning, what it means, how it works, and develop code necessary to build various algorithms such as deep convolutional networks, variational autoencoders, generative adversarial networks, and recurrent neural networks. A major focus of this course will be to not only understand how to build the necessary components of these algorithms, but also how to apply them for exploring creative applications. We'll see how to train a computer to recognize objects in an image and use this knowledge to drive new and interesting behaviors, from understanding the similarities and differences in large datasets and using them to self-organize, to understanding how to infinitely generate entirely new content or match the aesthetics or contents of another image. Deep learning offers enormous potential for creative applications and in this course we interrogate what's possible. Through practical applications and guided homework assignments, you'll be expected to create datasets, develop and train neural networks, explore your own media collections using existing state-of-the-art deep nets, synthesize new content from generative algorithms, and understand deep learning's potential for creating entirely new aesthetics and new ways of interacting with large amounts of data.

SCHEDULE

Session 1: Introduction To Tensorflow

We'll cover the importance of data with machine and deep learning algorithms, the basics of creating a dataset, how to preprocess datasets, then jump into Tensorflow, a library for creating computational graphs built by Google Research. We'll learn the basic components of Tensorflow and see how to use it to filter images.

Session 2: Training A Network W/ Tensorflow

We'll see how neural networks work, how they are "trained", and see the basic components of training a neural network. We'll then build our first neural network and use it for a fun application of teaching a neural network how to paint an image, and explore such a network can be extended to produce different aesthetics.

Session 3: Unsupervised And Supervised Learning

We explore deep neural networks capable of encoding a large dataset, and see how we can use this encoding to explore "latent" dimensions of a dataset or for generating

also learn about another type of model that performs discriminative learning and see how this can be used to predict labels of an image.

Session 4: Visualizing And Hallucinating Representations

This sessions works with state of the art networks and sees how to understand what "representations" they learn. We'll see how this process actually allows us to perform some really fun visualizations including "Deep Dream" which can produce infinite generative fractals, or "Style Net" which allows us to combine the content of one image and the style of another to produce widely different painterly aesthetics automatically.

Session 5: Generative Models

The last session offers a teaser into some of the future directions of generative modeling, including some state of the art models such as the "generative adversarial network", and its implementation within a "variational autoencoder", which allows for some of the best encodings and generative modeling of datasets that currently exist. We also see how to begin to model time, and give neural networks memory by creating "recurrent neural networks" and see how to use such networks to create entirely generative text.

4.9k Views · 6 Upvotes

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6

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Recommended All



Matthew Lai, Research Engineer @ Google DeepMind

Answered Jun 17, 2016 · Upvoted by Tao Xu, [Built ML systems at Airbnb, Quora, Facebook and Microsoft](#).

It depends on what you mean by "learn". You can learn to run scripts that train models on some toy problems in a few hours.

I have been doing deep learning for about 18 months now, almost full time. And I would say I know the very basics now.

To become an expert capable of designing entirely new exotic architectures and radical new ideas that actually work well? 5 years of hard work should be enough if you are a fast learner.

Try 2 years. There are many highly recommended books out there. Read them, and try those techniques on problems you find interesting. There is no shortcut.

8.2k Views · 58 Upvotes

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Recommended All



Gino Mortillero, Test Engineer at useAible (2015-present)

Answered Apr 19

Fortunately, there are a lot of great answers here which allows you to best make use of the 2 months.

I would like to supplement them. Since coding is a basic part of it, you will need to dig deep what framework/library/machine learning engine is right for you.

There are a couple out there, one that pops out a lot is Tensor Flow^[1], or the more traditional one, ENCOG^[2].

Also, let me tell you about the RLM^[3](Ryskamp Learning Machine). It's easy to learn and with a few lines of code, you can immediately train your engine to solve common problems.

One major tip: Keep on reading. Even if you think you're already an expert, push on and read. Deep Learning is constantly evolving, you'll need to keep up.

I wish you luck on your endeavor.

Footnotes

[1] TensorFlow

[2] Encog Machine Learning Framework

[3] useAible™

2.6k Views · 4 Upvotes

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Recommended All

Most answers to questions like this (“How do I learn **x** in **y** days/weeks/months?”) are long, detailed lists of topics. These answers might seem helpful, but the truth is that they aren’t. Why? **Because trying to learn without understanding how learning actually works is a frustrating, difficult and often futile experience.**

Let’s start with your timeline. Two months isn’t enough time to make anything more than basic progress on a skill with any kind of real complexity.

If you’re starting from scratch, I can tell you with confidence that you won’t be able to do it. Sorry.

Your brain has a limit on what it can process in a day, no matter how badly you want to learn. Biological processes (particularly **memory consolidation**) that your brain must go through in order to build memories also require rest periods and sleep in order to work properly.

Learning and memory are tightly coupled - you can’t have one without the other. Since memory processes require time and rest, there will always be a bottleneck in your ability to learn quickly. The focus of learning should then become efficiency, which can be achieved by making an effort to understand all the processes involved with learning.

If you’re coming from a background where you have lots of pre-existing knowledge (particularly in relevant topics like **statistics**, linear algebra and programming), then maybe you can get up and running in a couple of months. From the perspective, it’s just a matter of adding some additional bits of knowledge to your existing internal schemas.

But even then, it’s highly unlikely that you’ll have anything more than a baseline level of understanding. You definitely will not be at an expert - or even intermediate - level of skill or knowledge at that point, no matter how much relevant knowledge you might have ahead of time. Learning takes time, there’s now way around it.

If you want some additional information, I wrote another similar answer here: [Ace Eddleman's answer to I have a 400 days plan to learn about machine learning. I am hoping to build my own game bot which can play at least 2 games. How plausible is this?](#)

2k Views · 3 Upvotes

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3

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JQ Veenstra, Does research in theory and practice of ML

Answered Sep 14, 2016

Technically, you can't... see below. But, depending on your definitions, the short answer is: it depends.

Questions like this sometimes depress me because they seem to intend to trivialise the amount of study and research I've done. While I'm not an expert in deep learning, I have studied it, and I don't feel comfortable saying that I have "learned it"... probably Hinton, LeCun and Ng would say they haven't "learned" deep learning, simply because it's an ever expanding field of research that, quite frankly, has a lot of depth to be explored.

Forecasting, something I *am* an expert in, is often treated the same way. A lot of things are.

So, to recap: what does "learning X in time period Y" depend on?

How much you already know, and how deeply you want to learn it.

Specifically: if you don't know what a tensor is, but are OK with your learning being just how to use some software semi-intelligently... maybe, just maybe, you can do it in two months. But you won't be able to deal with anything you haven't already covered in those two months unless you're incredibly intelligent or have a great deal of related knowledge already.

The thing about learning is: it never stops. At least it shouldn't. I don't know the motivation for wanting to learn deep learning in two months, but it's likely employment related. Anyone who wants to specifically do deep learning while employed could potentially jump-start the learning process with two months of intensive study, but they would have to work just as hard on studying while they were working, since deep learning is a continually expanding field.

5.7k Views · 10 Upvotes

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Recommended All

Liber Liu, Graduate student major in AI

First of all, you should have the basic college level mathematics skills.

Then, basic understanding of machine learning by enrolling yourself into Coursera Andrew Ng's Machine Learning class. And finish all assignments.

Finally, you should make a decision about what you want to do with DL? NLP or Computer Vision?

If computer vision:

Finish Stanford CS231n([CS231n: Convolutional Neural Networks for Visual Recognition](#) download all the videos and finish them with assignments) and read a lot of related papers from [arXiv.org e-Print archive](#) . And start your own project with Caffe or Torch.

If NLP:

Finish Stanford CS224d([CS224d: Deep Learning for Natural Language Processing](#)) same as computer vision.

It's not a two-month work. Besides, there are toooooo many excellent papers need to learn. You can glance related arxiv papers every morning. There is always something new.

4k Views · 11 Upvotes

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Recommended All



Shishu Raj, Pro-Blogger, Freelancer at Upwork

Answered Sep 18

I think below course is one of the best course available in Market which you can take to learn deep Learning in 2 Months. Let's see what you will learn through this course-

What Will You Learn?

- Understand the intuition behind Artificial Neural Networks
- Apply Artificial Neural Networks in practice
- Understand the intuition behind Convolutional Neural Networks
- Apply Convolutional Neural Networks in practice

-
- Apply Recurrent Neural Networks in practice
 - Understand the intuition behind Self-Organizing Maps
 - Apply Self-Organizing Maps in practice
 - Understand the intuition behind Boltzmann Machines
 - Apply Boltzmann Machines in practice
 - Understand the intuition behind AutoEncoders
 - Apply AutoEncoders in practice

Course Link-[Deep Learning A-Z™: Hands-On Artificial Neural Networks | Learn to create Deep Learning Algorithms in Python](#)

Learn to create Deep Learning Algorithms in Python from two Machine Learning & Data Science experts. Templates included.

Course Description By Course Instructor-

Artificial intelligence is growing exponentially. There is no doubt about that. Self-driving cars are clocking up millions of miles, IBM Watson is diagnosing patients better than armies of doctors and Google Deepmind's AlphaGo beat the World champion at Go - a game where intuition plays a key role.

But the further AI advances, the more complex become the problems it needs to solve. And only Deep Learning can solve such complex problems and that's why it's at the heart of Artificial intelligence.

--- Why Deep Learning A-Z? ---

Here are five reasons we think Deep Learning A-Z™ really is different, and stands out from the crowd of other training programs out there:

1. ROBUST STRUCTURE

The first and most important thing we focused on is giving the course a robust structure. Deep Learning is very broad and complex and to navigate this maze you need a clear and global vision of it.

That's why we grouped the tutorials into two volumes, representing the two fundamental branches of Deep Learning: Supervised Deep Learning and

2. INTUITION TUTORIALS

So many courses and books just bombard you with the theory, and math, and coding... But they forget to explain, perhaps, the most important part: **why you are doing what you are doing**. And that's how this course is so different. We focus on developing an intuitive **feel** for the concepts behind Deep Learning algorithms.

With our intuition tutorials you will be confident that you understand all the techniques on an instinctive level. And once you proceed to the hands-on coding exercises you will see for yourself how much more meaningful your experience will be. This is a game-changer.

3. EXCITING PROJECTS

Are you tired of courses based on over-used, outdated data sets?

Yes? Well then you're in for a treat.

Inside this class we will work on Real-World datasets, to solve Real-World business problems. (Definitely not the boring iris or digit classification datasets that we see in every course). In this course we will solve six real-world challenges:

- Artificial Neural Networks to solve a Customer Churn problem
- Convolutional Neural Networks for Image Recognition
- Recurrent Neural Networks to predict Stock Prices
- Self-Organizing Maps to investigate Fraud
- Boltzmann Machines to create a Recommender System
- Stacked Autoencoders* to take on the challenge for the **Netflix \$1 Million prize**

**Stacked Autoencoders is a brand new technique in Deep Learning which didn't even exist a couple of years ago. We haven't seen this method explained anywhere else in sufficient depth.*

4. HANDS-ON CODING

In Deep Learning A-Z™ we code together with you. Every practical tutorial starts with a blank page and we write up the code from scratch. This way you can follow along and understand... [\(more\)](#)



Add a comment...

Recommended All



Ankit, Machine Learning & Deep Learning Expert

Answered Sep 5



You want to learn Deep Learning in 2 Months . Better to Take Any Online Course

I will Suggest you **Best Deep Learning Online Courses**

==> **Deep Learning A-Z™: Hands-On Artificial Neural Networks**

*** As seen on Kickstarter ***

Artificial intelligence is growing exponentially. There is no doubt about that. Self-driving cars are clocking up millions of miles, IBM Watson is diagnosing patients better than armies of doctors and Google Deepmind's AlphaGo beat the World champion at Go - a game where intuition plays a key role.

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**Stacked Autoencoders is a brand new technique in Deep Learning which didn't even exist a couple of years ago. We haven't seen this method explained anywhere else in*

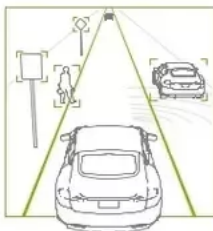
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LEARN TO DRIVE COMPETENTLY.

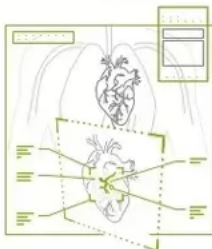
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TO DRIVE MORE SAFELY IN
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TO BECOME AN EXPERT AT
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4. HANDS-ON CODING

and understand exactly how the code comes together and what each line means.

In addition, we will purposefully structure the code in such a way so that you can download it and apply it in your own projects. Moreover, we explain step-by-step where and how to modify the code to insert YOUR dataset, to tailor the algorithm to your needs, to get the output that you are after.

This is a course which naturally extends into your career.

5. IN-COURSE SUPPORT

Have you ever taken a course or read a book where you have questions but cannot reach the author?

Well, this course is different. We are fully committed to making this the most disruptive and powerful Deep Learning course on the planet. With that comes a responsibility to constantly be there when you need our help.

In fact, since we physically also need to eat and sleep we ha... [\(more\)](#)

Upvote 6 Downvote



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Recommended All



Tarry Singh, M.S / Ph.D Artificial Intelligence & Robotics, Columbia University (2020)

Answered Sat

As you can see from the long list of answers that 2 months are unrealistic. (if you have no pr little experience about os, systems, programming, scripting)

Start learning. Code every day. Try these tutorials I am creating and maintaining with latest version and projects.

[TarrySingh/Artificial-Intelligence-Deep-Learning-Machine-Learning-Tutorials](#)

Good luck!

184 Views

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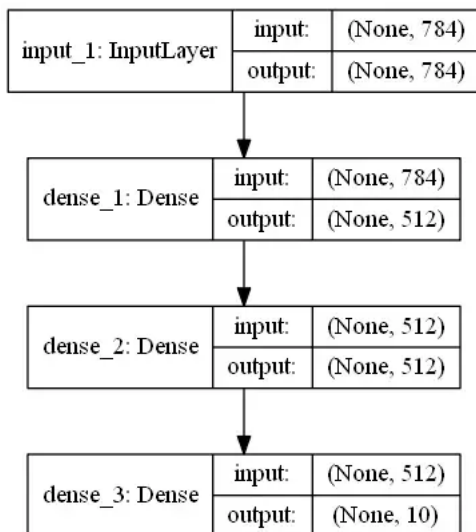
Recommended All

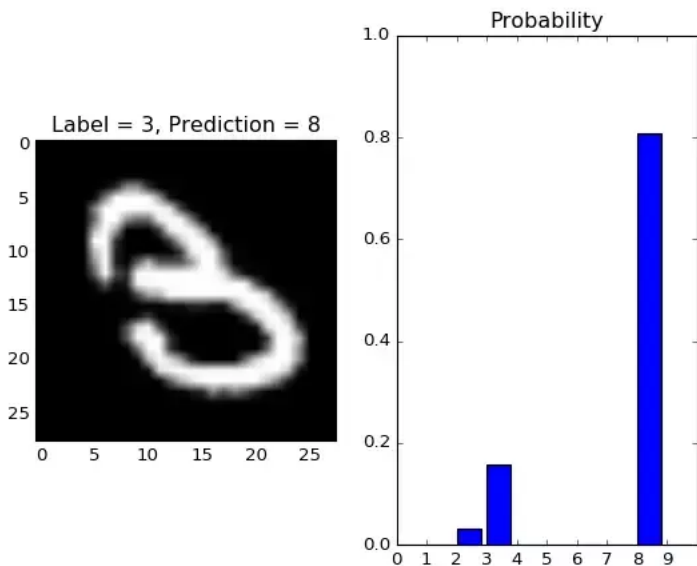
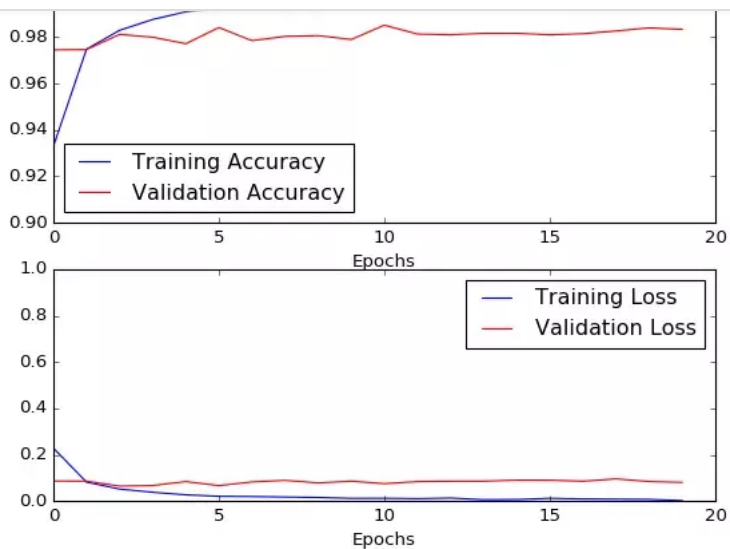


Taking the following steps will get you started.

1. Check [Deep learning for complete beginners: Recognising handwritten digits](#)
2. Download its code, install Keras/Theano, and run it. (p.s. I am using Windows, and it seems to me that installing Theano on Windows is much easier than installing Tensorflow on Windows.)
3. See if you can create the following figures out of the program.

I took about one or two weeks to make it happen. I think that it is a good starting point for beginners.







Recommended All

**Haohan Wang, Master Quantitative Finance & Deep Learning**

Answered Jun 20

I am currently learning deep learning as well. I set up a 1-**year** plan for myself. I have implemented this plan for almost 1 month and a half. I would like to share my experience as well as my background with you so that you can pick some tips that fit your current state.

As a beginner, I have **statistics** and finance backgrounds. I have learned and used python for about 1-2 years. No professional training in either CS or ML area.

In short, my learning plan covers: reading, coding practice, lecturing as well as projects. My main focus is to implement neural networks in tensorflow.

1. I read < Deep Learning> written by [Ian Goodfellow](#) ,

[Yoshua Bengio](#) and [Aaron Courville](#) every day for 2 hours at least.

1. I also highly recommend some online courses like [cs231n](#) and [cs224n](#) from Stanford to start with.
2. As for coding part, I start with some simple tasks like linear regression and logistic regression. Make sure you get familiar with the basic concepts like the placeholder, various cost function, and optimizers etc in a practical way.
3. I found it is very useful to start coding neural networks with numpy since most tensorflow operations could be rewritten in numpy as well.
4. I also set up the time to learn different types of neural networks(their definition and applications) and then give a lecture every night to review what I have learned.
5. On the weekend, I download datasets from [Kaggle](#) or use Twitter API to do some text or sentiment analysis(since NLP is my main focus as well) with the neural network to test what I have learned during the weekdays.

Right now, I can build basic deep neural nets, word embedding like word2vec and doc2vec(+visualize the embedding with tensorboard), and recurrent neural networks by myself. Also, I have finished 5 chapters of <deep learning> and I have done around 7-8 weekend projects so far.

Hope you find these useful. Thanks!

2.1k Views · 15 Upvotes

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Add a comment...

Recommended All



Manish Barnwal, Statistical Analyst at WalmartLabs

Answered Jan 7

Deep learning sounds cool. Almost everyone at my workplace talks about it. So I decided I'd try to understand what the fuss is about. There are plethora of resources available online. Don't get yourself lost in this.

I don't like to follow too many resources for learning because then the learning rate gets slower and a lot of content gets repetitive.

I'll suggest just two resources for learning.

The first one is an online book. Here's the [link](#) . The examples here are well-explained and it develops an intuitive understanding of the subject.

The second is a MOOC from Jeremy Howard.

Jeremy takes a very different approach to teaching in his course [here](#) . All that is expected to learn from this course is you should have been coding for at least a **year** .

There are video lectures, Python notebooks having the code and its explanations. The course also has a Wiki and very helpful forum.

Happy learning!

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Recommended All



Kai Petersen, Machine Learning enthusiast

Answered Nov 29, 2016

2. Implement latest papers on arXiv. You can use [Loading...](#) to see source code for implementation of popular papers.

3. Make a repo of your code on GitHub and collect stars.)

1.6k Views · 2 Upvotes

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2

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Recommended All



Pranjal Srivastava, studied at Indian Institute of Technology, Varanasi

Answered Jul 15

I cannot say if 2 months is really sufficient, but you can definitely start-off from my [blog](#) . It tries to explain every little detail about neural networks and deep learning, and can be a decent resource for beginners. Feedbacks are welcome. (*No pun intended!*)

145 Views

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Recommended All



Tapabrata Ghosh, Founder and CEO at Vathys

Answered Jan 5

2 months? Ooof, that's tough. You need to come to the realization that you will be a practitioner, not a researcher. It's not a bad way to get started though!

Note: This assumes you know elementary math like linear algebra, multivariable [calculus](#) and simple optimization.

1. Use CS231n's course as your one month's material. If you can only do one thing, do this.
2. Pick a framework and do the MNIST tutorial. I recommend Caffe or Keras for beginners.
3. Now, use TensorFlow/Keras/Caffe/MXNet/whateveryouwantNet to make a neural network. Choose an *obscure* dataset (so no pre-made answers) to

-
4. Walk away from your network from step 3.
 5. Skip to convolutional neural networks in Hugo Larochelle's course.
 6. On the final few days, revisit your network from step 3 and try to make it better (ie Leaky ReLUs or BatchNorm).
 7. Enjoy your newfound knowledge! Join us at r/machinelearning, twitter and quora!

3k Views · 14 Upvotes · Answer requested by Chen Min

Upvote 14 Downvote



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Recommended All



Nuno Moutinho, CTO @ boomApp

Answered May 10

Hello there,

I truly recommend [this online book](#) to start playing with neural networks (NN) and deep NN and learn everything from scratch. The explanation is very good and it comes with tutorials in python that are easy to understand and to replicate.

You keep with the same example during the whole book (MNIST dataset for hand written numbers' recognition) which let's you understand the advantages and disadvantages of different approaches and techniques (which is cool).

I followed this book from start to end and have implemented my own NN library in C++. I truly truly recommend this book!

Give it a try, it's worth it trust me ;)

Best of luck!

652 Views · 1 Upvote

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Recommended All

Khang Pham, studied Computer Science at Purdue University (2010)

areas to learn and master. I strongly believe in Andrew Ng's advice about reproducing research/paper results by your self and see what are the challenges. You can learn so much from that exercise. It's a long journey, allow you to have time for your curiosity.

On the other hand your question implied you might know exactly what do you want to achieve from DL. In that case one need to know what are your goals.

523 Views

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Recommended All



Chris Nicholson, contributor to open-source deeplearning4j.org

Answered Jun 17, 2016

It depends on what knowledge you already have. We drew up a list of free online courses and resources here for deep learning beginners: [Deep Learning for Beginners](#)

2.1k Views · 3 Upvotes

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3

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Recommended All



Peter Ku, PhD Machine Learning, Stanford University (2014)

Answered Dec 28, 2016

All the answers above are spot on but especially like Jeremy Howard's course!

I would also suggest following all the relevant people (adding to Vivek's list) that will really keep you in the loop.

[D] [Deep Learning Twitter Loop](#) • [/r/MachineLearning](#)

1.3k Views · 3 Upvotes

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Recommended All

Geetanjali Mukherjee, AM at Infoedge India Ltd.,NOIDA

these pages. These pages share articles written by AI leaders.

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Recommended All



Narasimman Ramiah, working on many data science problems

Answered Jan 21

You can buy the book, Deep Learning by Ian Goodfellow et al. you can visit the site www.deeplearningbook.org

622 Views

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Recommended All



Ming LI, Know one thing or two about Data Science

Answered Jun 29

If 2 months is all you have, then I suggest looking at build applications with Deep Learning such as MNIST digits classification and IMDB sentiment analysis, and maybe a regression problem using Deep Neural Network.

Use high level deep learning frameworks such as Keras as you won't have time to deep dive.

Read at least one paper for each of DNN, CNN, RNN, there are some useful blogs and papers suggested here and there.

2 months is way too short even a online course like Andrew Ng Machine Learning takes by design 3 months just to give bit of flavour. To build anything serious for commercial or industrial purpose, it is imperative to understand what the algorithm is doing mathematically under the hood.

234 Views



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Alexis Paulet, Have been following cryptos for a few years

Answered 5h ago

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Sam Kernan, Been involved in cryptocurrencies since 2013

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