**Becoming A Machine Learning Engineer | Step 1: Adjusting your mind set**

Whenever I lead my workshops I always get a lot of question afterwards from developers who want to get started in machine learning, but feel stuck. Usually the only thing holding them back is a self-limiting belief. I’m going to go over the most common of these beliefs and ways to get past them. Once you get passed these mental blocks there should be nothing stopping you from moving forward in your goals.

**Self-limiting beliefs**

**Waiting to get started**

The limiting belief that held me back the most was waiting to get started. I was always pushing back my first project because I felt like I always needed to finish one more thing. Whether that thing was reading a research paper or completing some online course there was always something else for me to work on before I could move forward.

**Some common thoughts from students I teacher are:**

* I need to get a degree first
* I need to complete a course
* I need to know statistics and probability
* I need to master Python or R
* I need to learn linear algebra

All of this is bullshit. You can get started right now and run your first regression or classifier. Sure it might not work very well or have some issues, but getting the ball rolling is more important then being perfect. Plus when you complete projects you always get a better understanding of your weaknesses and will know what the focus on next project!

There is no reason not to get started now.

My first experience with machine learning was Andrew Ng’s Coursera class, Check it out here. [Click Here](https://click.linksynergy.com/link?id=2FjcpnX/y5U&offerid=467035.1560515719&type=2&murl=https%3A%2F%2Fwww.coursera.org%2Flearn%2Fmachine-learning)

**Lack of self-confidence**

One of the most common limiting beliefs is a lack of self confidence in one’s ability to learn and apply machine learning techniques to real problems.

**In my experience the most common of these beliefs are:**

* All data Scientists and Machine learning engineers have a Ph.D. Since I don’t have one it must mean I can’t do it.
* If I start machine learning, I will end up failing and making a fool of my self
* I’m just not smart enough to learn this

“A river cuts through rock, not because of its power, but because of its persistence” — James N. Watkins

Everyone starts out sucking at something, but it is through hard work and persistence that people build skills and get better. You might not feel very smart when you first start, but you can’t let that stop you from trying.

**Waiting for the perfect time**

Another form of procrastination I see has to do less with lack of knowledge and more to do with lacking time or perfect conditions.

**This usually takes the form of the following thoughts:**

* My computer is not good enough to build machine learning applications on
* I’m just a student now
* I’m not a very good programmer
* I’m too busy with work
* I don’t have enough time
* I don’t have enough experience

It takes a ton of time and effort to become very good at machine learning; however, getting started can be as easy as spending 5 hours a week putting together a small project. The best time to plant a tree was 10 years ago. The second-best time is now!

Here is a list of 8 projects you can get started on today. [Click Here](https://elitedatascience.com/machine-learning-projects-for-beginners)

**Have tried and failed in the past**

The fourth self-limiting belief that I see in my students is the feeling that they will fail now because they have failed in the past. This belief can’t be further from the truth.

**People with this limiting belief often say to me:**

* I can’t understand X
* I don’t know what to do next
* I feel overwhelmed
* My program is not working
* I won’t be as good as Y

Now a days there are many new tools and courses that help new machine learning engineers. Machine learning is hard but no harder than other technical skills like programming. You have to put in the long hours and hard work to build the skills and experience needed to get good.

My advice is that you should not take on large projects that can overwhelm people. Start small and build from there.

**What is holding you back?**

Have you ever had these self-limiting beliefs? How did you get past it? Understanding your feelings is the first step to changing your actions to match with your goal of becoming a machine learning master.