**Why Learn Deep Learning?**

Get introduced to deep learning and learn why you should consider studying and/or pursuing it.

**We'll cover the following**

* [What is deep learning?](https://www.educative.io/module/page/qjv3oKCzn0m9nxLwv/10370001/5200716586549248/5339617817001984#What-is-deep-learning?)
* [Deep learning applications](https://www.educative.io/module/page/qjv3oKCzn0m9nxLwv/10370001/5200716586549248/5339617817001984#Deep-learning-applications)

**What is deep learning?**

Deep learning is considered a subfield of machine learning. Even though there are countless inspirations from real neurons, we will focus on modeling everything with formulas, intuitions, and theories that actually work.

In practice, deep learning is the scaling up of computational structures called neural networks.

Why do we take the time to develop such approaches?

Because it is the optimal solution when working with really large-scale data right now.

It is important to keep in mind that deep learning is all about learning **powerful** representations.

There is a huge shift from extracting features to learning features, and that is what deep learning is all about.

**Deep learning applications**

You will get a general perspective of a huge variety of problems that you can solve with deep learning.

First, you will learn to formulate problems in terms of machine and deep learning. That’s a crucial skill that you will use throughout your career and projects.

Secondly, you will learn the most basic components that tackle some of the following tasks:

* Image classification
* Time series prediction
* Image denoising and compression
* Image generation
* Machine translation
* Graph and node classification

Deep learning has already transformed a variety of **businesses** such as web search, augmented reality, social networks, automobiles, retail, cybersecurity, and manufacturing. But the most exciting thing is the potential novel applications that may appear in the future. These projects can radically transform every industry.

Some experts claim that **AI is the new electricity.** While this may be a disputable idea, what is for certain is that **deep learning is one of the most sought after and well-paid skills.**

So why stay behind?