

What will we do?

A little summary of what this course is about and what we will be doing throughout this course.

In this course, we will take a journey to making a neural network that can recognize human handwritten numbers.

1. We will start with very simple predicting neurons, and gradually improve on them as we hit their limits. Along the way, we will take short stops to learn about the few mathematical concepts that are needed to understand how neural networks learn and predict solutions to problems.
2. We will journey through mathematical ideas like functions, simple linear classifiers, iterative refinement, matrix multiplication, gradient calculus, optimization through gradient descent and even geometric rotations. But all of these will be explained in a really gentle clear way and will assume absolutely no previous knowledge or expertise beyond simple school mathematics.
3. Once we have successfully made our first neural network, we will take an idea and run with it in different directions. For example, we will use image processing to improve our machine learning without resorting to additional training data. We will even peek inside the mind of a neural network to see if it reveals anything insightful - something not many guides show you how to do!
4. We will also learn Python, an easy, useful and popular programming language, as we make our own neural network in gradual steps. Again, no previous programming experience will be assumed or needed.