Who is this course for?

A small guide for learners who want to study this course.

This course is for anyone who wants to understand what neural network is. It's for anyone who wants to make and use their own neural network. And it's for anyone who wants to appreciate the fairly easy but exciting mathematical ideas that are at the core of how they work.

This course is not aimed at experts in mathematics or computer science. You won't need any special knowledge or mathematical ability beyond school maths. If you can add, multiply, subtract and divide then, you can make your own neural network. The most difficult thing we'll use is gradient calculus - but even that concept will be explained so that as many learners as possible can understand it.

Interested learners may wish to use this course to go on further exciting excursions into artificial intelligence. Once you've grasped the basics of neural networks, you can apply the core ideas to many varied problems.

Teachers can use this course as a particularly gentle explanation of neural networks and their implementation to enthuse and excite students making their very own learning artificial intelligence with only a few lines of programming language code. The code has been tested to work with a Raspberry Pi, a small, inexpensive computer very popular in schools and with young students.

I wish a guide like this had existed when I was a teenager struggling to work out how these powerful yet mysterious neural networks worked. I'd seen them in books, films, and magazines, but at that time I could only find difficult academic texts aimed at people already expert in mathematics and its jargon. All I wanted was for someone to explain it to me in a way that a moderately curious school student could understand. That's what this course wants to achieve.