

1 Introduction

Neural networks have a lot of applications in today's world. They have applications in character recognition, image compression, stock market prediction, medicine, and much more [1]. They provide us with a way to compute for more complicated things.

When neural networks are mentioned, people tend to panic as they think it is a very complicated topic. However, it is not incredibly complicated. For people with a background in linear algebra, neural networks become something more tangible, because it is just applying concepts in linear algebra.

For this topic, we will discuss a basic kind of neural network. It is not too complicated (like the modern versions of neural networks) and it is easy to follow.

2 Preliminaries

2.1 Activation Function

The activation function is simply a function that squeezes numbers to fit into a certain range. In this case, we try to fit numbers in the range $[0, 1]$. There are many kinds of activation functions, and the function we use for this topic is the sigmoid function. The sigmoid function is defined as

$$\text{sigmoid}(x) = \frac{1}{1 + e^{-x}}$$

thing thing thing

3 Discussion

4 Results

5 Conclusion

References

- [1] *Applications of neural networks*. URL: <https://cs.stanford.edu/people/eroberts/courses/soco/projects/neural-networks/Applications/index.html>.