Paper Title

September 15, 2015

Abstract

Our abstract.

1 Introduction

Introduction here.

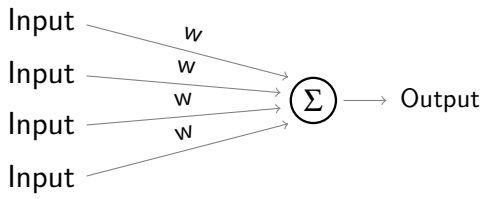

Figure 1: Single Neuron Diagram

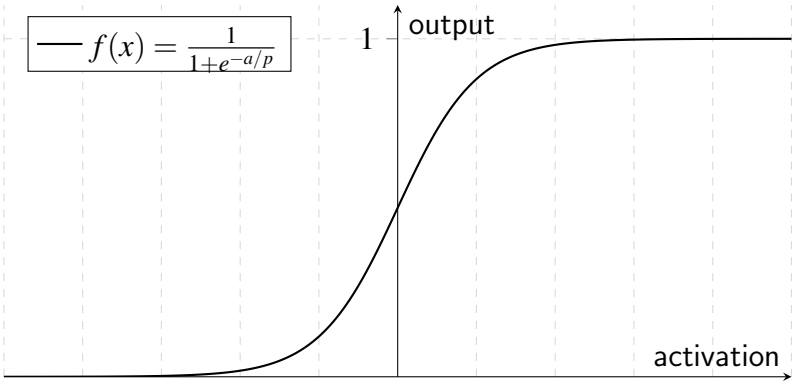

Figure 2: Sigmoid Function Graph

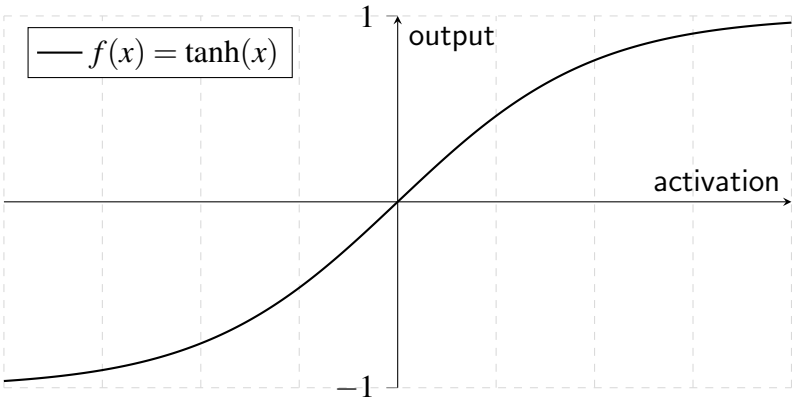

Figure 3: Hyperbolic Tangent Function Graph

2 Neural Network Background

2.1 Neuron Architecture

2.2 Feedforward Neural Network

3 Learning Implementation

4 Simulation

4.1 Sensor Choice and Layout

4.2 Kinematics

5 Results

Results, testing, and applications go here.

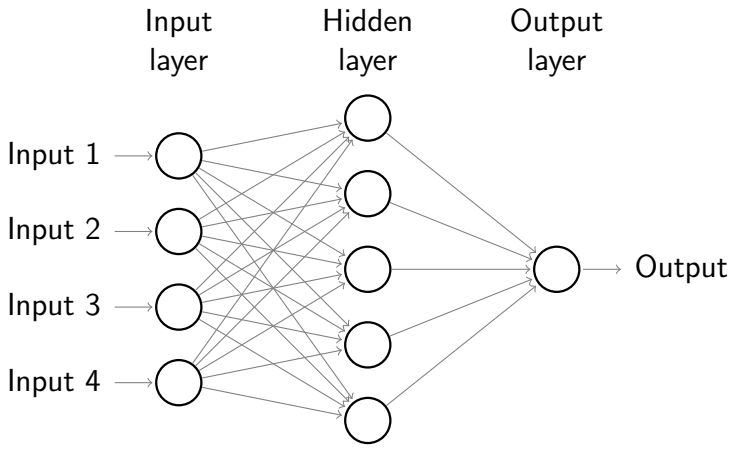

Figure 4: Single Output Feedforward Network

5.1 Training Methods

5.2 Findings

5.3 Further Applications

6 Discussion

7 Conclusion

Restate, discuss further study, improving experimentation, etc.

References

Dini, S., & Serrano, M. (2012). Combining q-learning with artificial neural networks in an adaptive light seeking robot.

Dudek, G., & Jenkin, M. (2000). *Computational principles of mobile robotics*. New York, NY, USA: Cambridge University Press.

Gaskett, C., Wettergreen, D., & Zelinsky, A. (1999). Q-learning in continuous state and action spaces. In *Australian joint conference on artificial intelligence* (pp. 417–428).

Kim, D. S., & Papagelis, A. J. (n.d.). *Multi-layer perceptron: Artificial neural networks.* `http://www.cse.unsw.edu.au/ cs9417ml/MLP2/`.

MacLeod, C. (2010). *An introduction to practical neural networks and genetic algorithms for engineers and scientists* (Tech. Rep.). Robert Gordon University.

Werbos, P. (1974). Beyond regression: New tools for prediction and analysis in the behavioral sciences.