Article Title

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Abstract

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I. Introduction

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II. Related work

III. Basic Theory

i. Nerual Networks

Nerual networks are a multi layered collection of nodes which have an input layer, hidden layer and an output layer [1]. The input of each node is the output of all nodes in the previous layer. Each of these connections in the network has an individual weight associated to it. To get the value of a node not in the input layer, the output of all the nodes in the previous layer are added togehther with each individual weight along the connection that it travels. All these weighted values are then fed to an aggregation function which result is given to an activation function. The activation function is usually the Sigmoid, Sign or Relu function.

Neural networks can have any number of nodes in the input layer, hidden layers and outputlayer and they do not need to be the same amount. Furthermore it can have any number of hidden layers.

Neural networks have had considerable succes in low-level reasoning where lots of training data is available. They learn by giving the input layer values and then have the network compute an output value. The ouput value is then compared to the real value of the inputs and based on the margin of error we go backwards through the network adjusting each weight. This is called back propagation. After doing this enough times or when the margin of error is lower than a predefined value the network is considered trained and can be tested on new data or be applied to a real world sceneario.

ii. Graph Convolutional Network

IV. Method

V. Discussion

VI. Conclusion

References

[1] David L. Poole and Alan K. Mackworth. "Artificial Intelligence: Foundations of computational agents (second edition)". In: ed. by Cambridge University Press 2017. 2017.

[2] Rex Ying et al. "Graph Convolutional Neural Networks for Web-Scale Recommender Systems". In: KDD '18. 2018.