

Neural networks

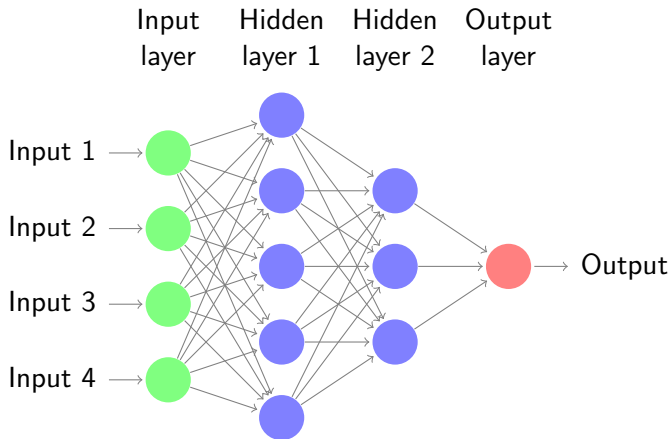
Architectures and training tips

Who? Sebastian Björkqvist

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What is a neural network?



Modified from <http://www.texample.net/tikz/examples/neural-network/>

Why neural networks?

- Can approximate any function [Hornik, 1991]
- May learn to respond to unexpected patterns
- Useful especially when the amount of data is large
- Less need for feature engineering compared to traditional ML methods

References



Nielsen, Michael A. *Neural Networks And Deep Learning*. Determination Press, 2015.

<http://neuralnetworksanddeeplearning.com/>



Hornik, Kurt. *Approximation Capabilities of Multilayer Feedforward Networks*. *Neural Networks*, 4(2), 251–257, 1991.