

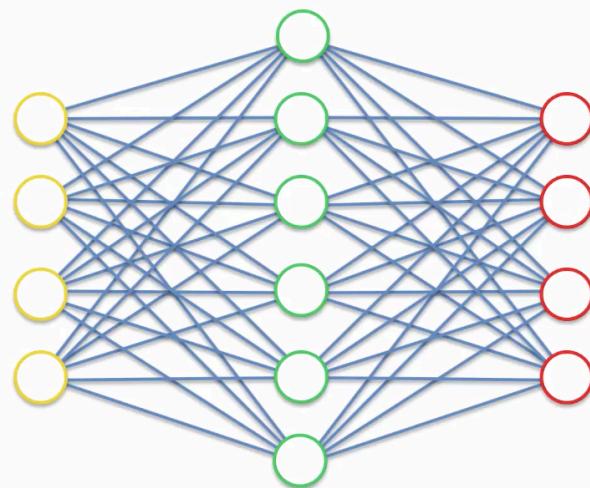
Sparse autoencoder

Sparse Autoencoders

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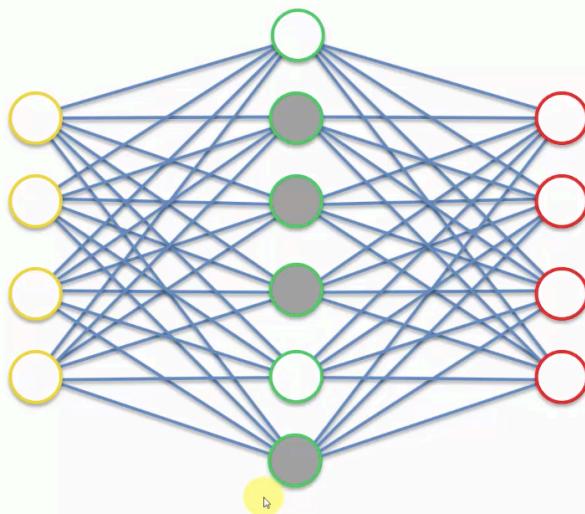


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First solution to solve the problem of cheating (not considering all of the inputs for creating the hidden layer) in over-complete hidden layers is that sparse auto encoders. In sparse auto encoders, regularization has been applied.

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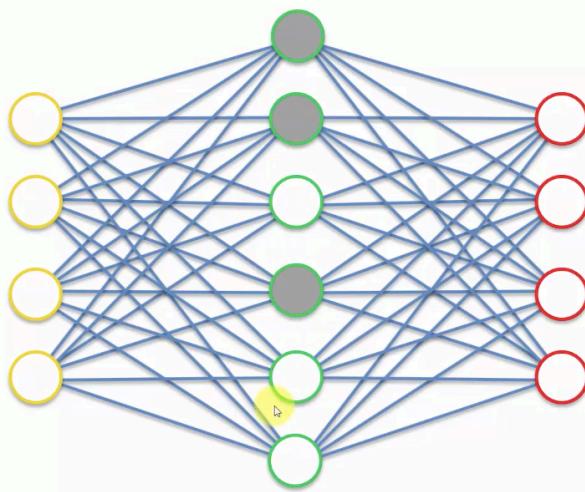


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At each time, the auto encoder only uses a certain number of hidden nodes. Which in here uses only 2 nodes.

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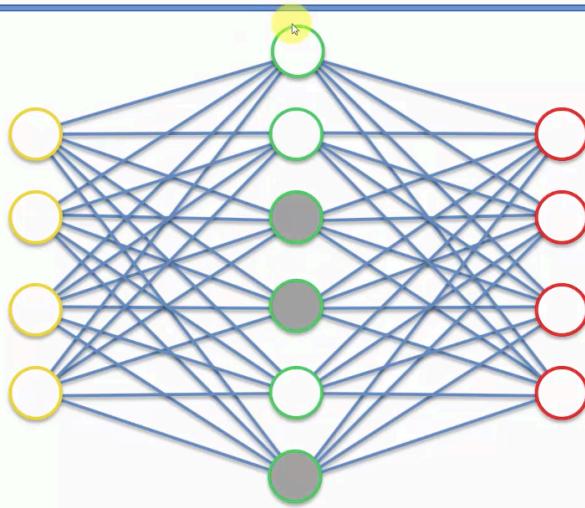


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In another pass, these nodes are participating and so on.

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Additional Reading:

Deep Learning Tutorial - Sparse Autoencoder

By Chris McCormick (2014)

Link:

<http://mccormickml.com/2014/05/30/deep-learning-tutorial-sparse-autoencoder/>

0	7	3	2	0	6	3	5	2	0	1	5
1	2	2	3	1	9	3	1	2	2	0	1
2	3	1	2	1	2	3	1	2	3	0	1
3	0	2	1	0	3	0	2	1	0	3	1
4	5	0	6	3	2	5	0	6	3	2	1
5	6	4	5	3	0	6	4	5	3	0	1
6	0	1	2	5	4	0	1	2	5	4	3
7	1	0	2	3	1	0	2	3	1	0	1
8	2	3	1	0	2	3	1	0	2	3	0
9	3	5	4	1	3	5	4	1	3	5	2
10	4	0	1	2	3	4	0	1	2	3	1
11	5	1	0	2	3	5	1	0	2	3	2
12	6	2	3	1	0	6	2	3	1	0	1
13	7	3	4	5	6	3	4	5	6	3	2
14	8	0	1	2	3	8	0	1	2	3	1
15	9	1	0	2	3	9	1	0	2	3	0

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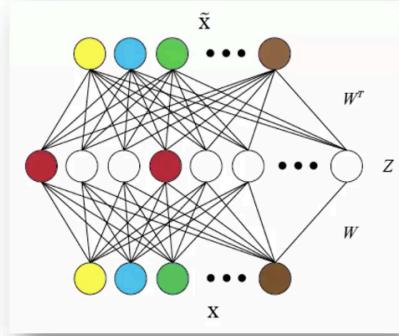
Additional Reading:

Deep Learning: Sparse Autoencoders

By Eric Wilkinson (2014)

Link:

<http://www.erichwilkinson.com/blog/2014/11/19/deep-learning-sparse-autoencoders>



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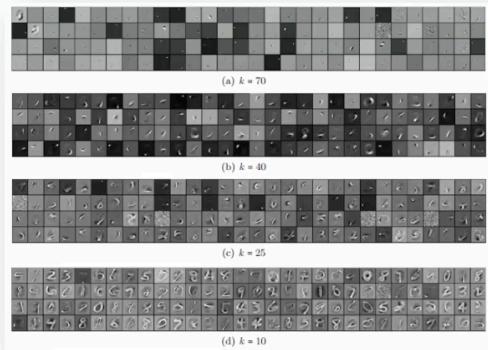
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Additional Reading:

k-Sparse Autoencoders

By Alireza Makhzani et al. (2014)

Link:



<https://arxiv.org/pdf/1312.5663.pdf>

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