ARTIFICIAL INTELLIGENCE

EXPLAINED, FOR ONCE.

Chan Cheuk Ka

AI vs ALGORITHM

AI

Algorithm

1. Do this
2. Do that
3. Do something else
4. Do more stuff
5. Do step 3 again
6. Do another thing

PROBLEM TYPES

Classification problem

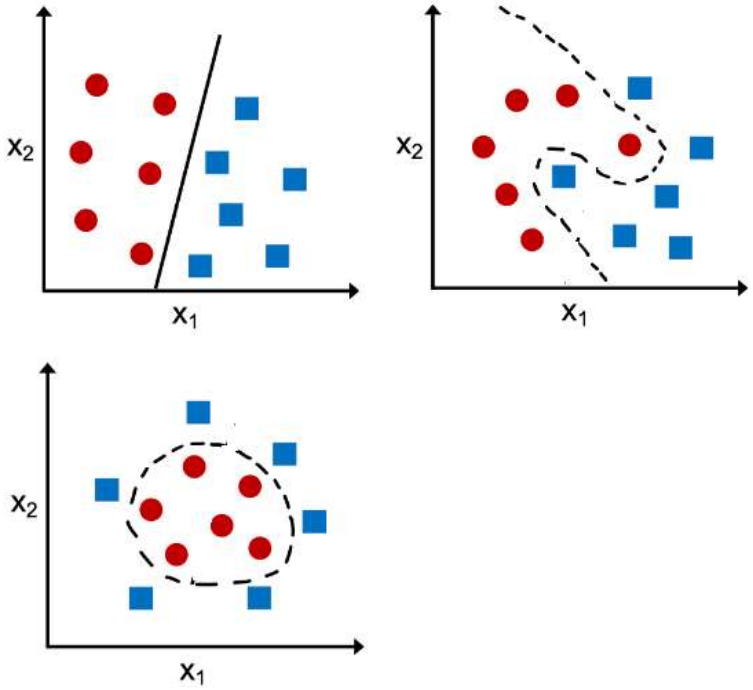
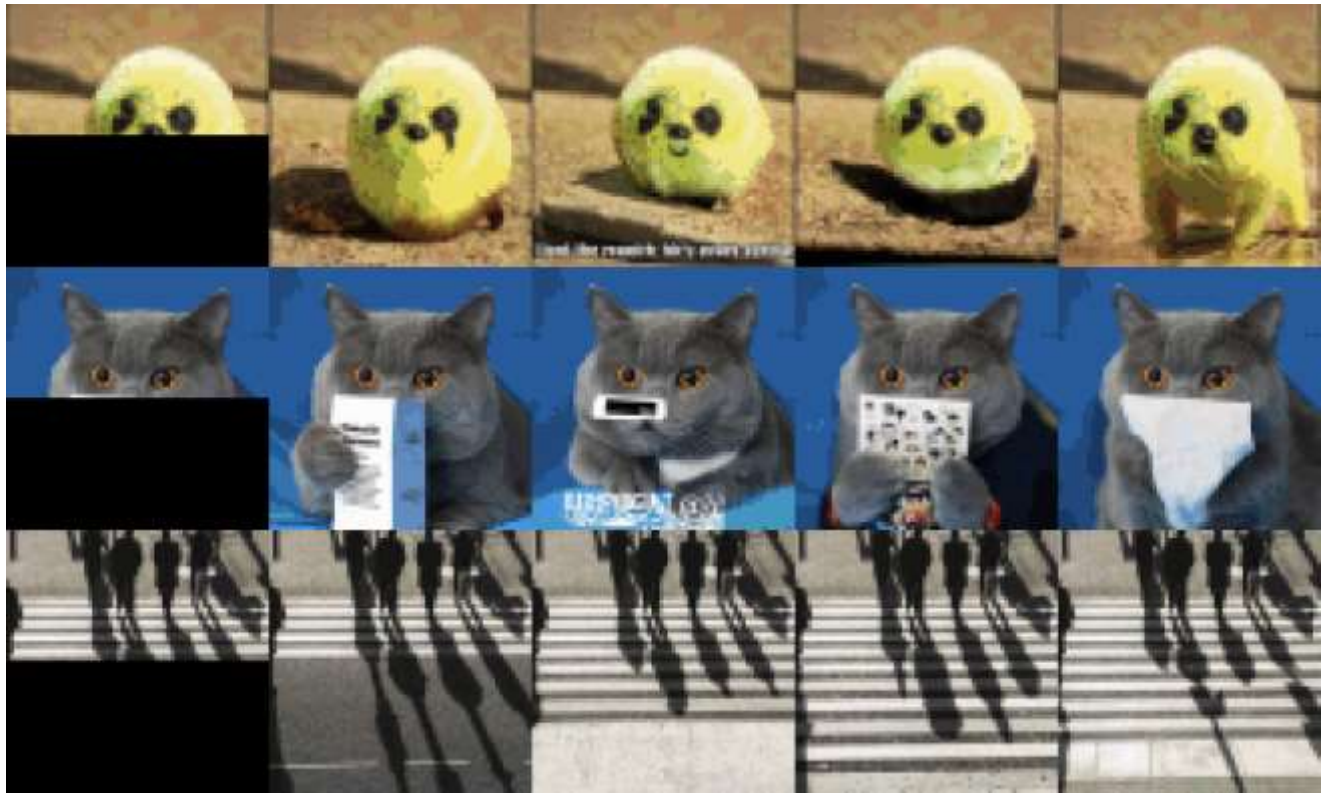
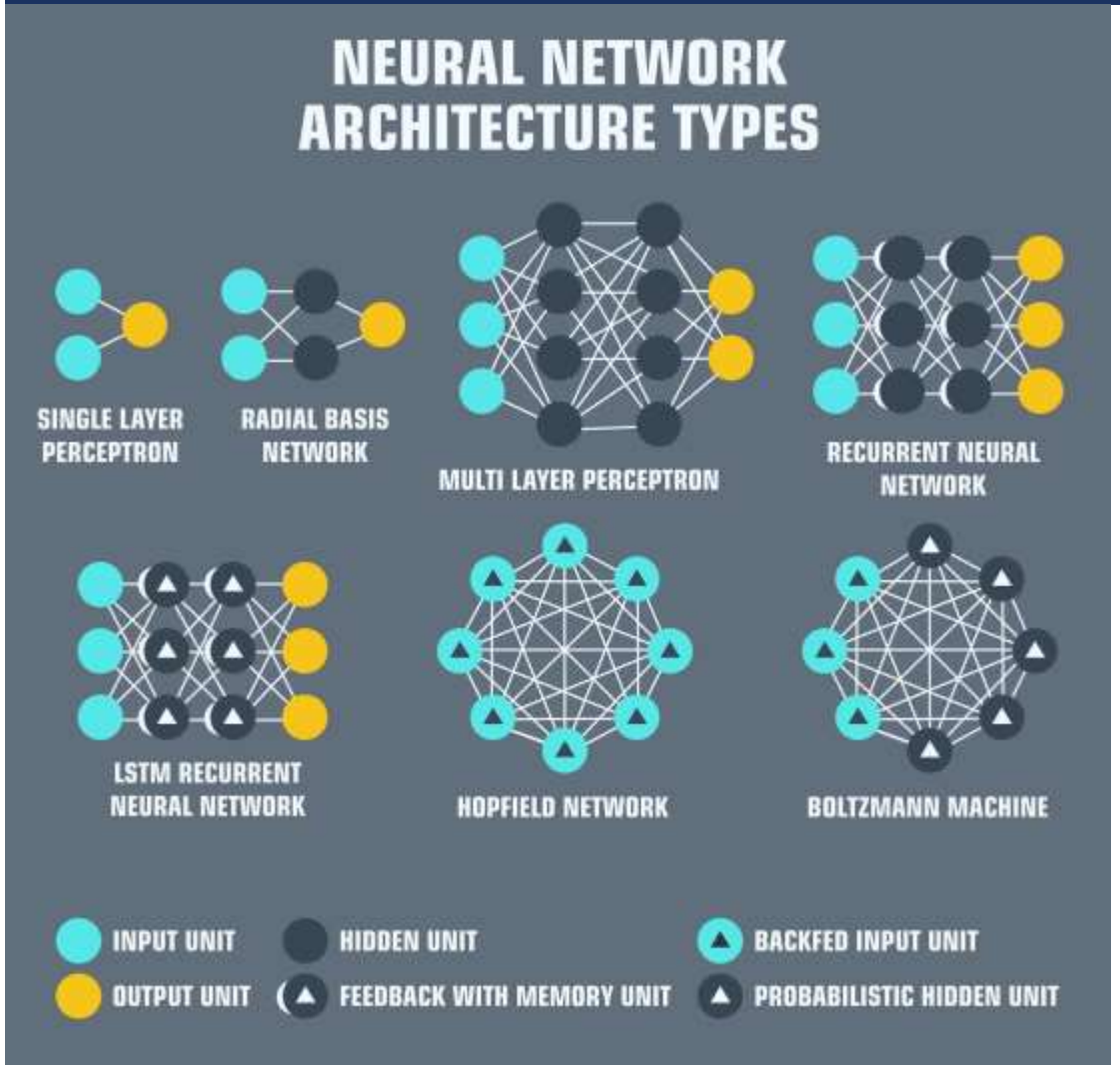
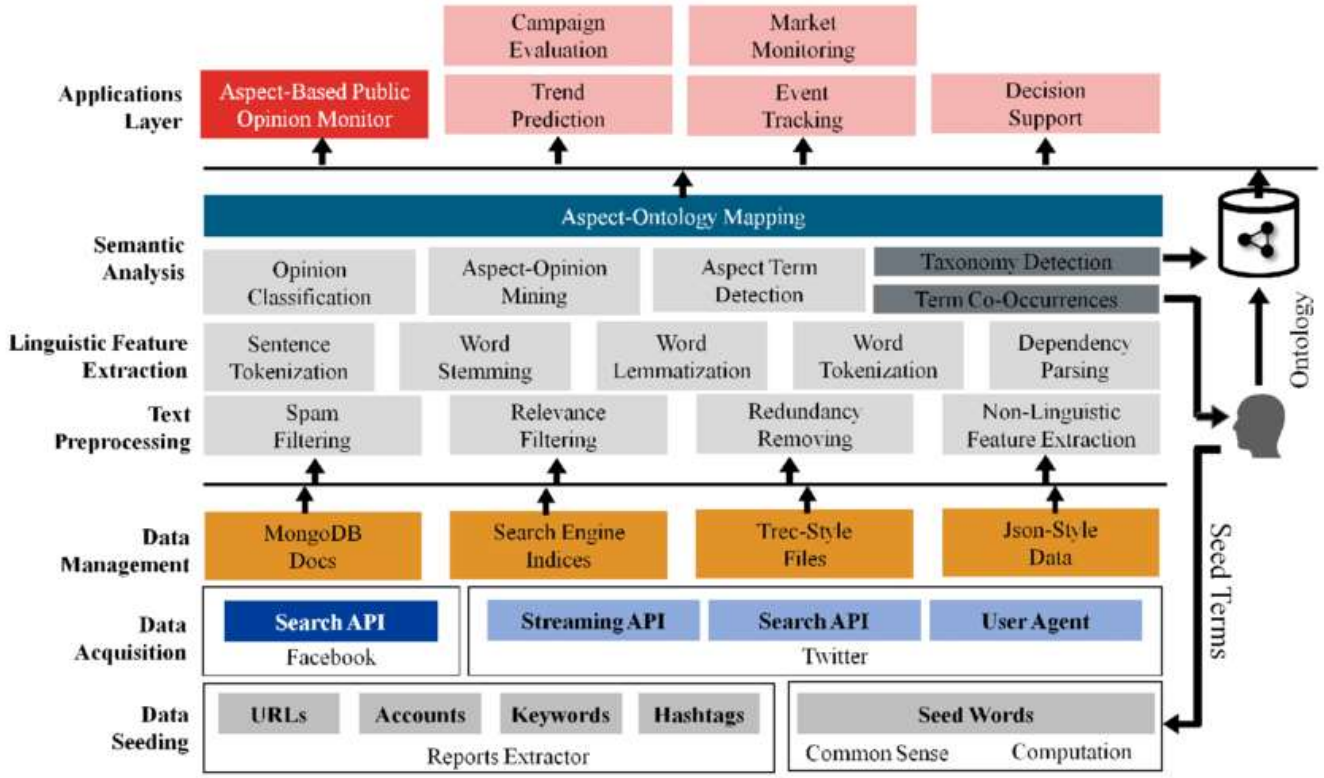


Image completion

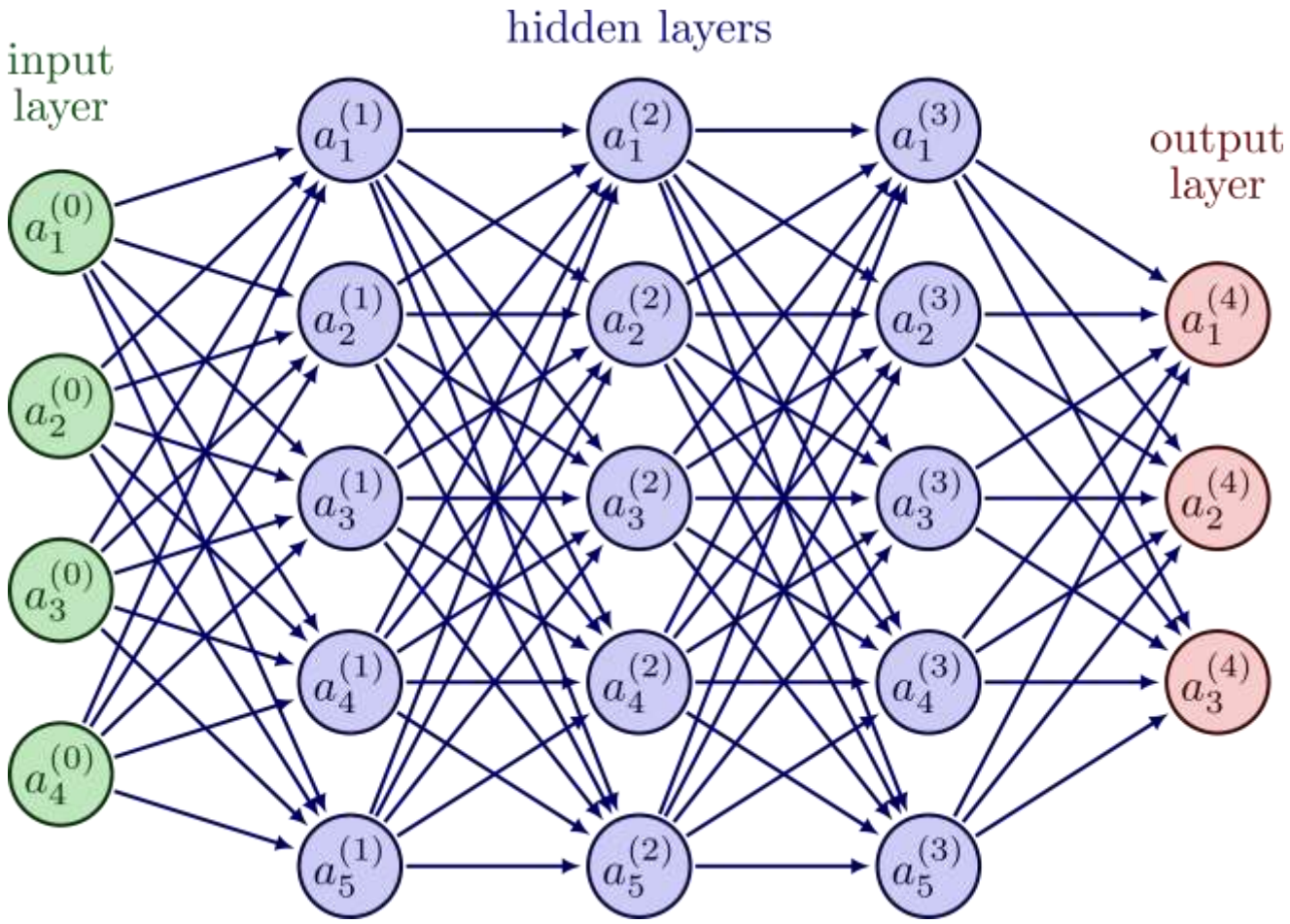


AI ARCHITECTURES

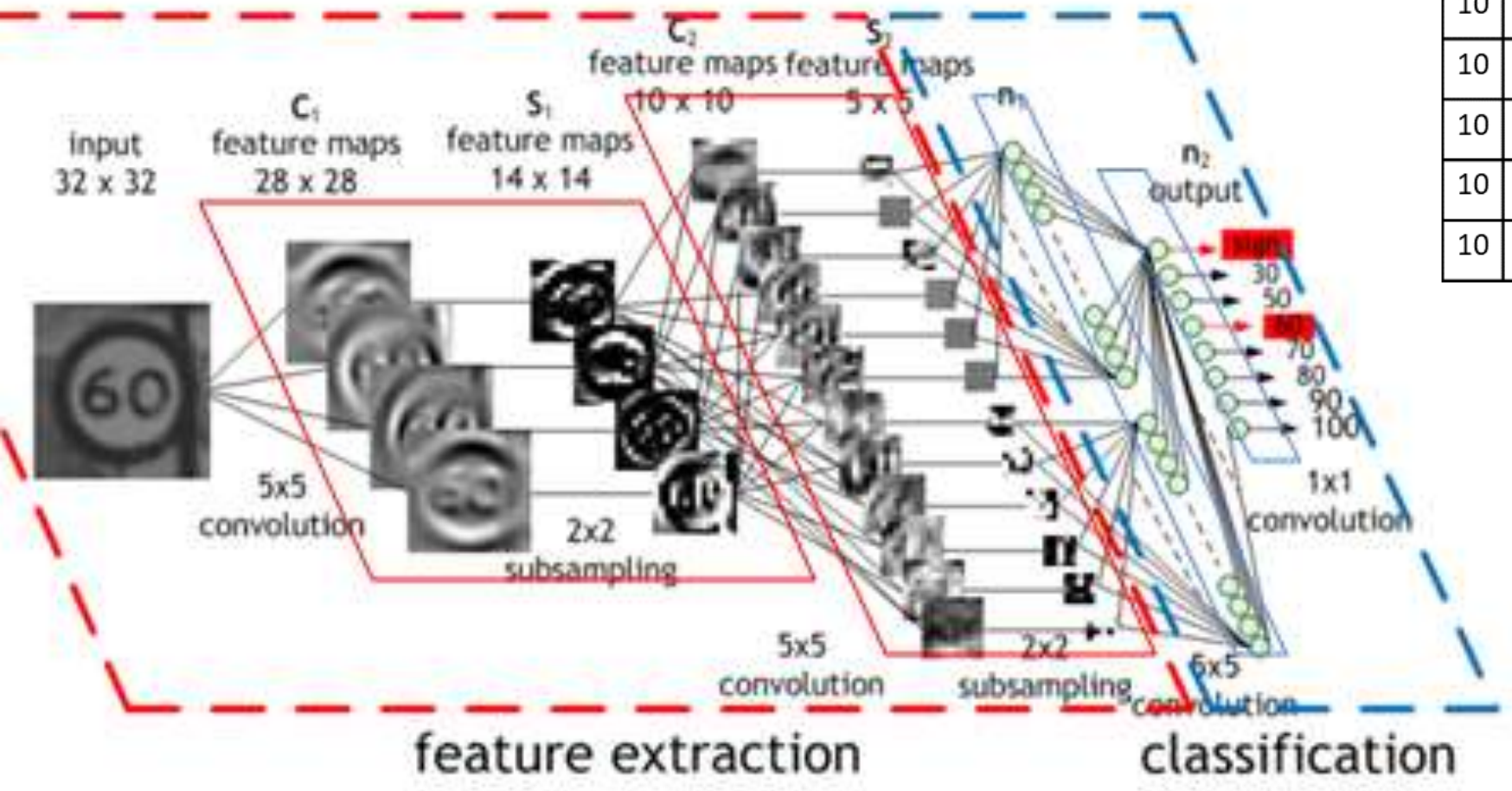




NEURAL NETWORK



CONVOLUTIONAL NEURAL NETWORK (CNN)



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10	10	10	0	0	0
10	10	10	0	0	0
10	10	10	0	0	0
10	10	10	0	0	0
10	10	10	0	0	0

*

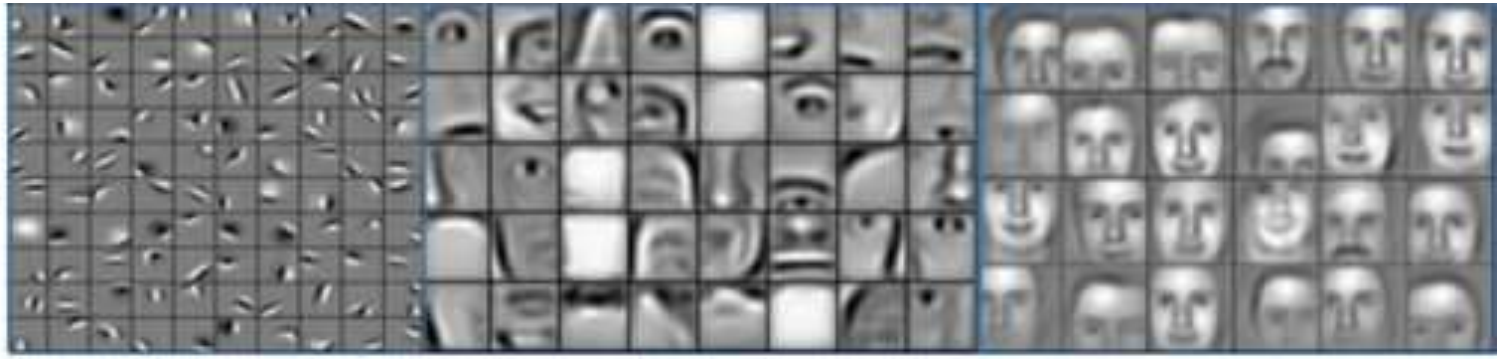
1	0	-1
1	0	-1
1	0	-1

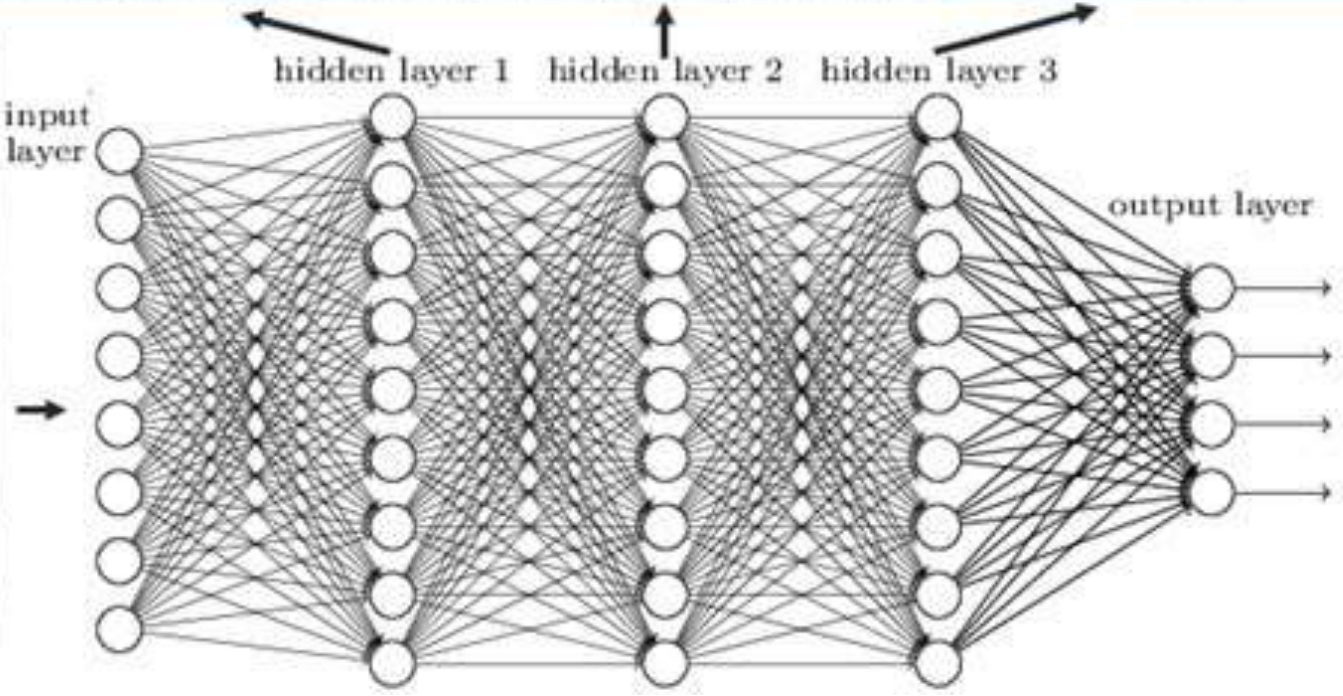
=

0	30	30	0
0	30	30	0
0	30	30	0
0	30	30	0

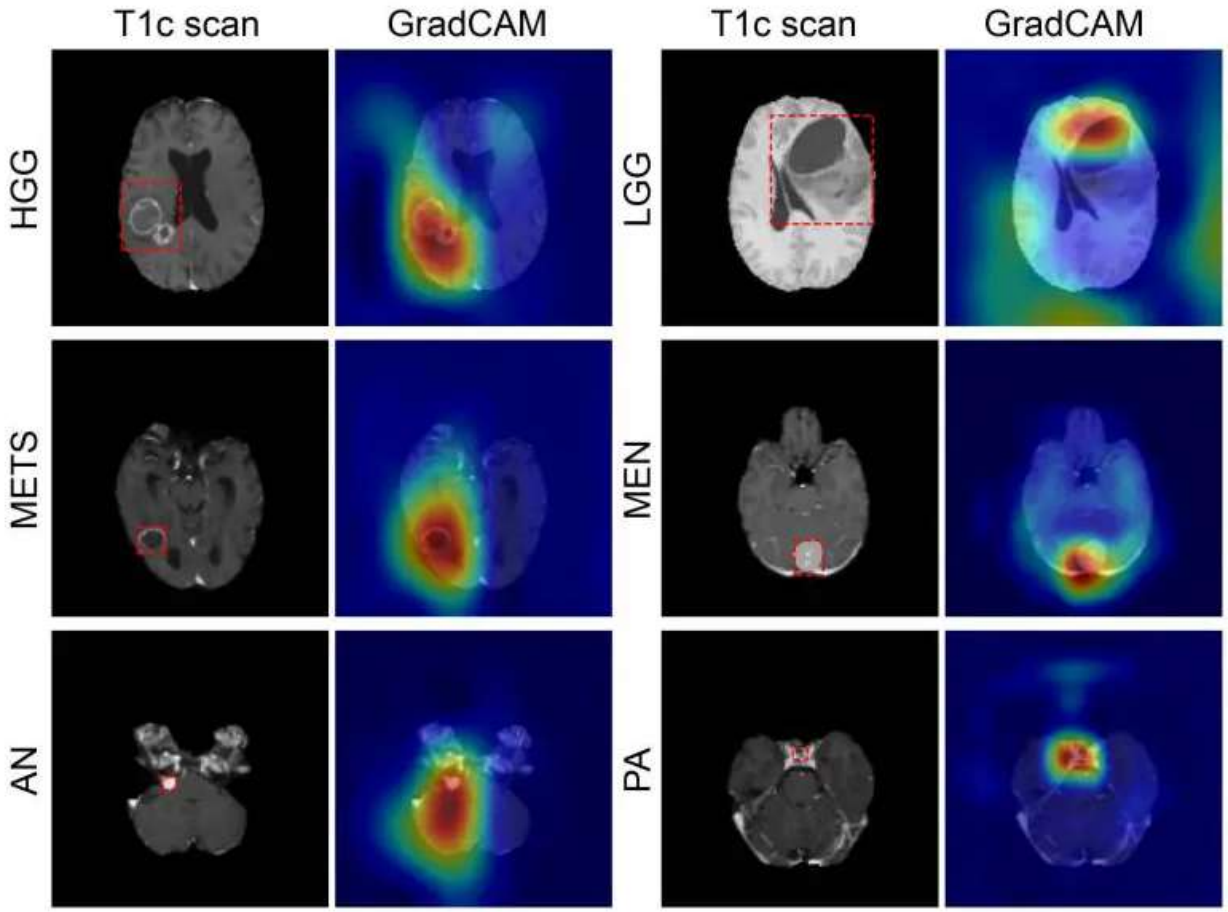
FACIAL RECOGNITION

Deep neural networks learn hierarchical feature representations

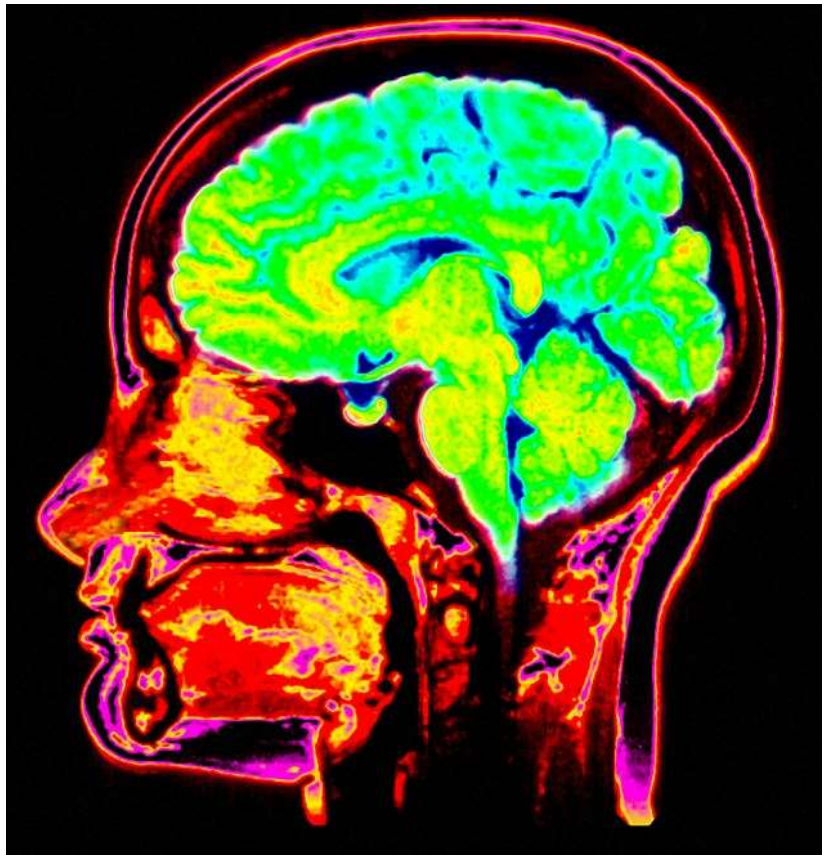




AI FINDING TUMOURS FROM MRI SCANS



EXTRACT CEREBROVASCULAR DATA FROM INFRA-RED IMAGES



ADVERSARIAL ATTACK

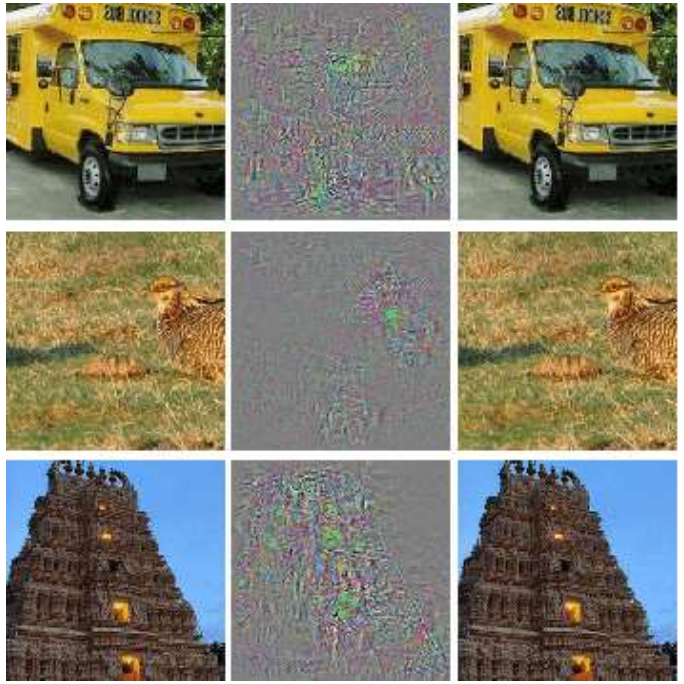


Image + Noise = Ostrich

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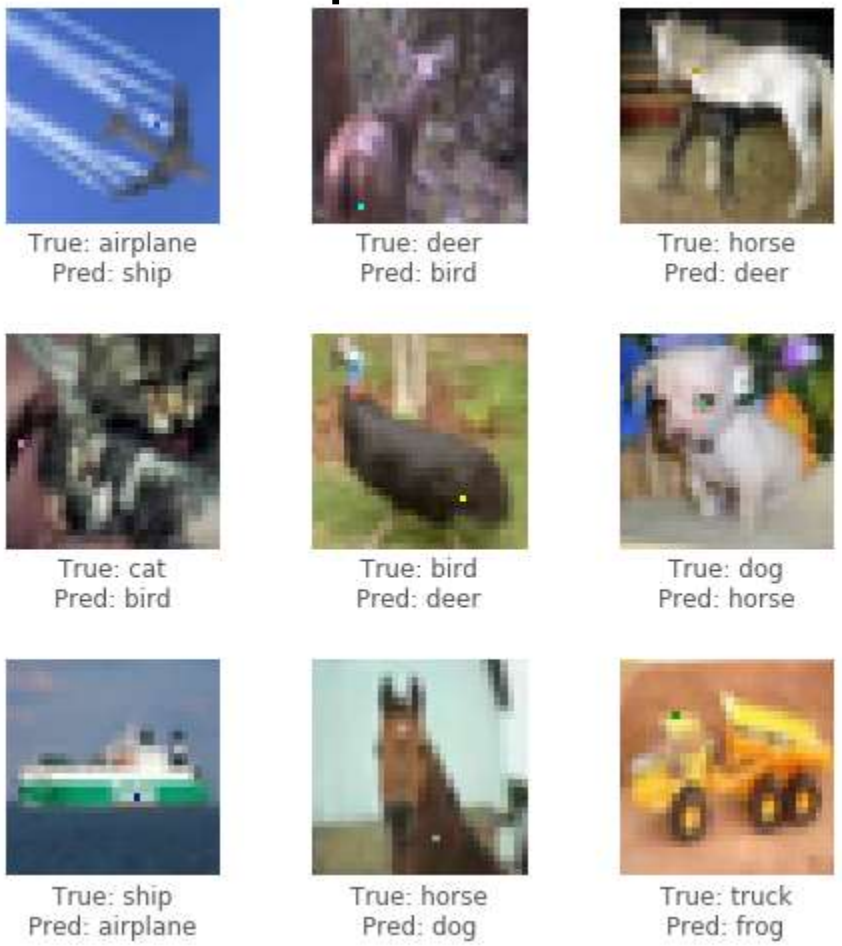
One-pixel attack



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Thank you