Lec-20 note
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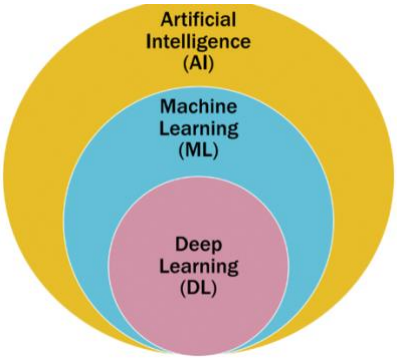
Deep learning & Biomedicalimaging

AI is techniques which enable computers to mimic human behavior, ML and Dl are subset of AI



fully-connected layers (Universal approximation theroem), a general function approximator, and we cam approximate any related function if we have enough nodes and layers.
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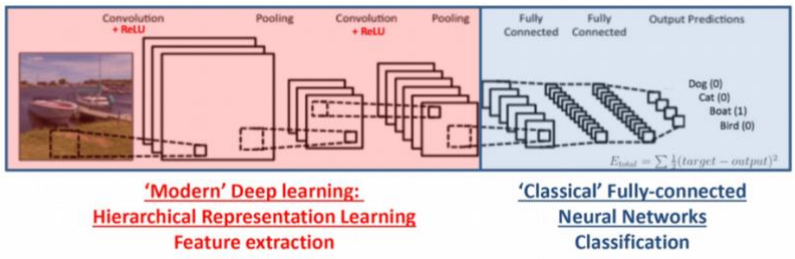
The problem of a fully-connected layers: cannot determine the number of node and layers, storage, running time, hard to train, prior knowledge is ignored, overfitting…

So we can use convolutional layers



How to do convolutions?
Share parameters!
→
Alleviate the overfitting issue, Detect translation invariant features, Locality
If first layer is 3*3, 60 ((3*3+1)*6) of parameters are generated

Padding
The dimension will be decrease to deal with the boundary

Pooling
Max pooling, Average pooling, Combined with padding and stride