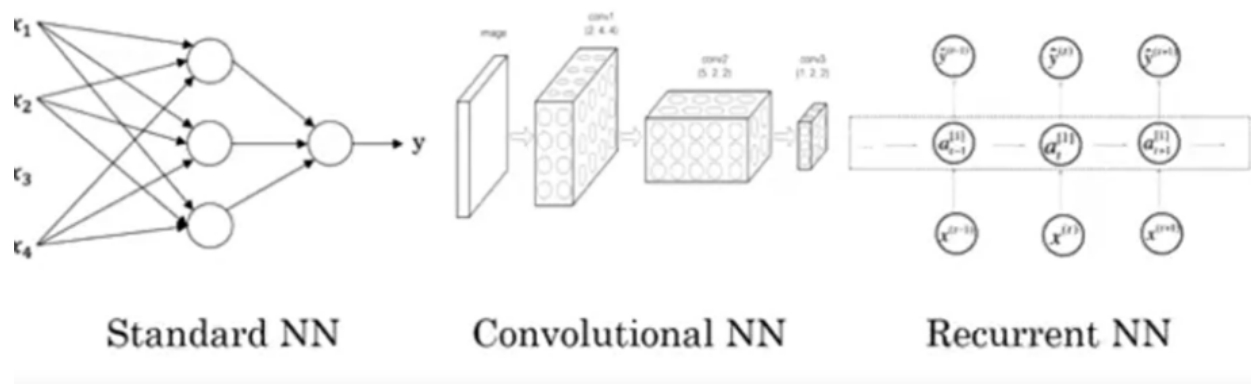


# Week 1 Notes

## Supervised Learning

- Features an Input( $x$ ) and an Output( $y$ )
- A couple examples:
  - Audio  $\rightarrow$  text transcript
  - Ad, user info  $\rightarrow$  Did they click the ad? (0/1)
  - English  $\rightarrow$  Chinese
  - Image, Radar Info  $\rightarrow$  Position of other cars

## Neural Network examples

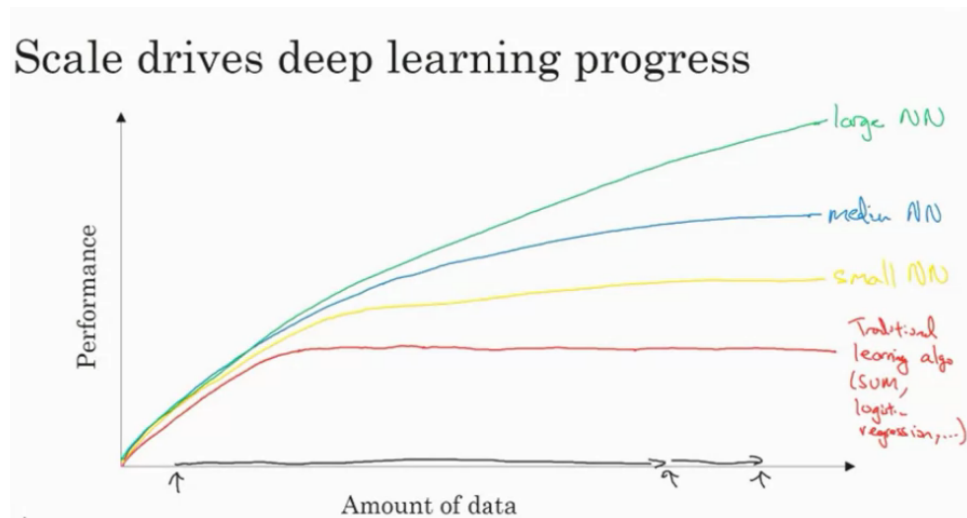


- Structured Data
  - Databases of data, with columns that tells us about features
- Unstructured Data
  - Raw audio, images, or simple text. Harder for computers to make sense of unstructured data

## Why is Deep Learning taking off?

- Went from having a **small** amount of data  $\rightarrow$  a **large** amount of data

- Activities on devices creates data



- **(m)** denotes the size of training set or number of examples
- Combination of Data, Computation, and Algorithm development progress
  - RELU function learns parameters must faster than the sigmoid function