

Types of Neural Network

1. Multi-layer perceptron
2. Convolutional Neural Network (Image / Video)
3. Recurrent Neural Network (NLP)
4. Auto Encoders
5. Generative Adversarial Networks (GAN)

History of Deep Learning

Chapter 1: The 60's : Perception invented

Chapter 2: The 1969 : The First AI winter
↳ Perception can not learn
XOR function

↳ Perception works on linear
model but XOR f^m is
not linear.

Chapter 3: 1980's :

The rise

Research
Paper

Learning representations using
Backpropagating errors

Chapter 4: The 90's , The Second AI winter

Random
weight init

few ML algorithms like SVM,
RF were working better on
less data also and were
giving good result than Neural
Network.

Chapter 5: 2006

unsupervised Pretraining

Research Paper

Instead of Random weight initialization, we can use neural network for weight initialization → because of this we can make deep neural network.

Hence the Deep Learning came

Chapter 6: 2012

on 2012

The Final result

Imagenet Challenge

used Deep Learning
on GPU

This competition
Started on
2010.

Error rate was
15% almost
half than
previous years

From here it kicked off → And companies like Google, Facebook started exploring and researching this

On 2016 : Company Deep Mind → Made artificial player for

Alpha Go ← Go Game.

won 4 times straight
against Go champion LEE SEEDOL

Yann LeCun

Geoffrey Hinton

Application Areas :

Self-driving cars

Game Playing Agents

Virtual Assistant

Image Colorization

Adding audio to mute videos

Image Caption Generation

Text translation

Pixel Restoration

Object Detection

GAN

Medical

Finance

Generate Image,
audio, Stories ...
.....

Hottest Technology
of 21st Century