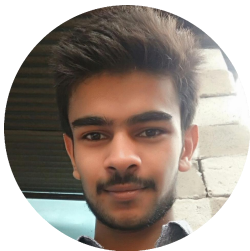
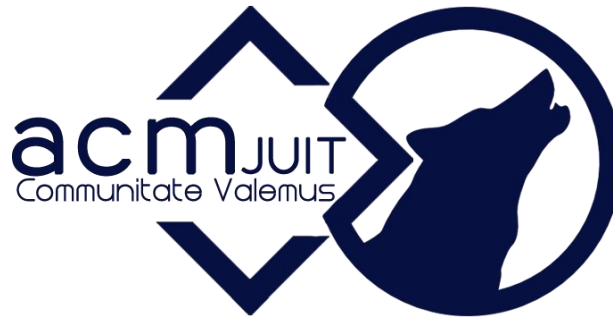


Introduction to Machine Learning

Day 10: Neural Networks



Abhimanyu Aman
IEEE Member



Akhilesh Kumar
Hands on Mentor

Agenda

Day 10

Recap of Day 9

Natural Language Processing

Bag of Words Model

Data Cleaning

Neural Networks

Artificial Neural Networks

Convolutional Neural Networks

Comparative Analysis of Bootcamp

Quick Recap

NLP

Data Cleaning

Library: nltk

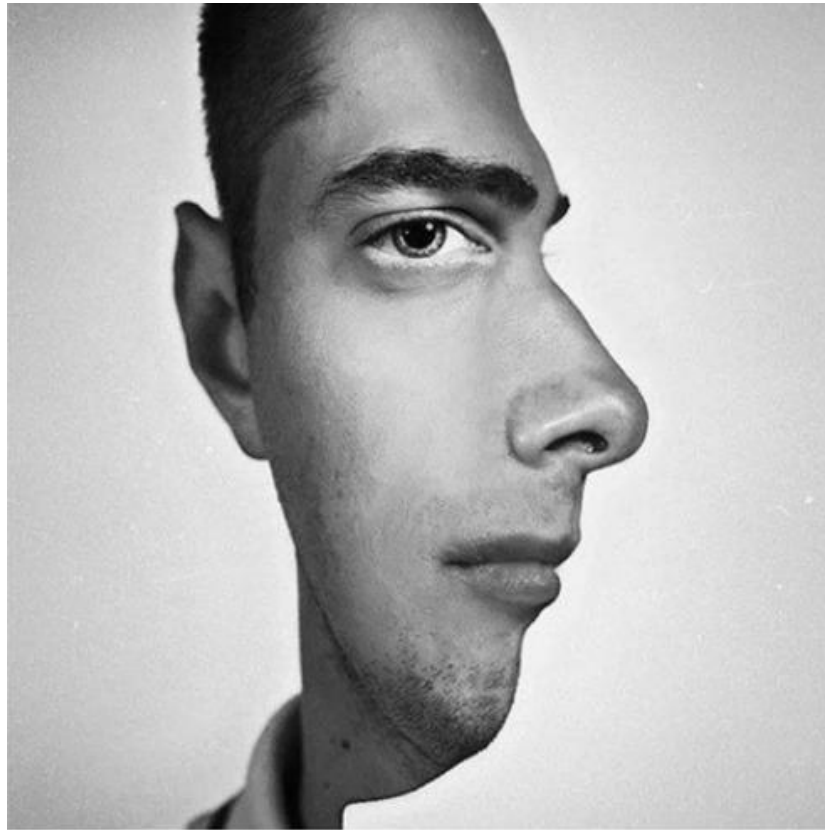
Library: re

Deep Learning

Neural Networks

- ANN
- CNN

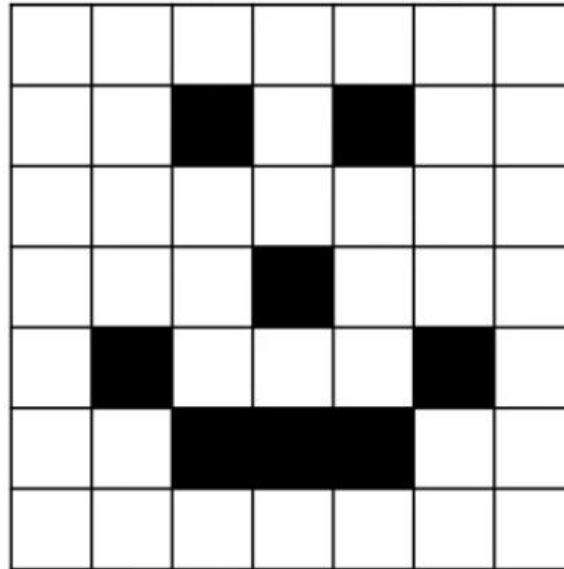
Convolutional Neural Network



Convolutional Neural Network



Convolutional Neural Network



0	0	0	0	0	0	0
0	1	0	0	0	1	0
0	0	0	0	0	0	0
0	0	0	1	0	0	0
0	1	0	0	0	1	0
0	0	1	1	1	0	0
0	0	0	0	0	0	0

Convolutional Neural Network

Convolution

$$(f * g)(t) \stackrel{\text{def}}{=} \int_{-\infty}^{\infty} f(\tau) g(t - \tau) d\tau$$

Max Pooling

Flattening

Full Connection

Convolutional Neural Network

Convolution

0	0	0	0	0	0	0
0	1	0	0	0	1	0
0	0	0	0	0	0	0
0	0	0	1	0	0	0
0	1	0	0	0	1	0
0	0	1	1	1	0	0
0	0	0	0	0	0	0

Input Image



0	0	1
1	0	0
0	1	1

Feature
Detector

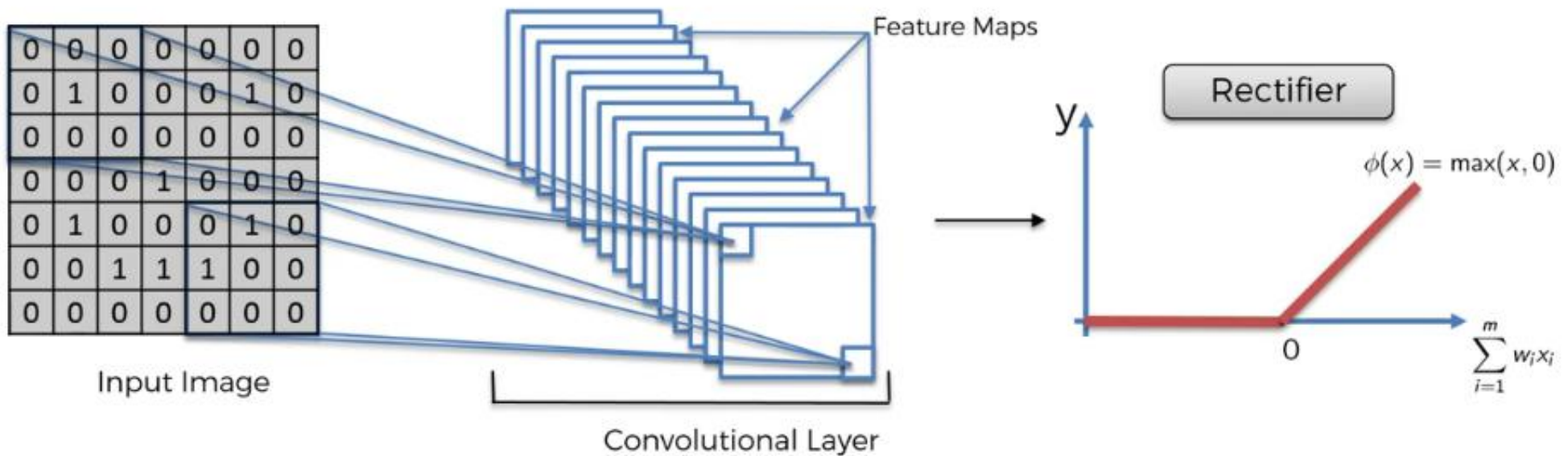


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Feature Map

Convolutional Neural Network

Convolution



Thank You for attending

This session was presented by ACM JUIT

