

What is AI?

Artificial Intelligence

Artificial Intelligence

Refers to the simulation of human intelligence

Mimicking the intelligence or behavioral pattern of humans or any other living entity.



Artificial
Intelligence

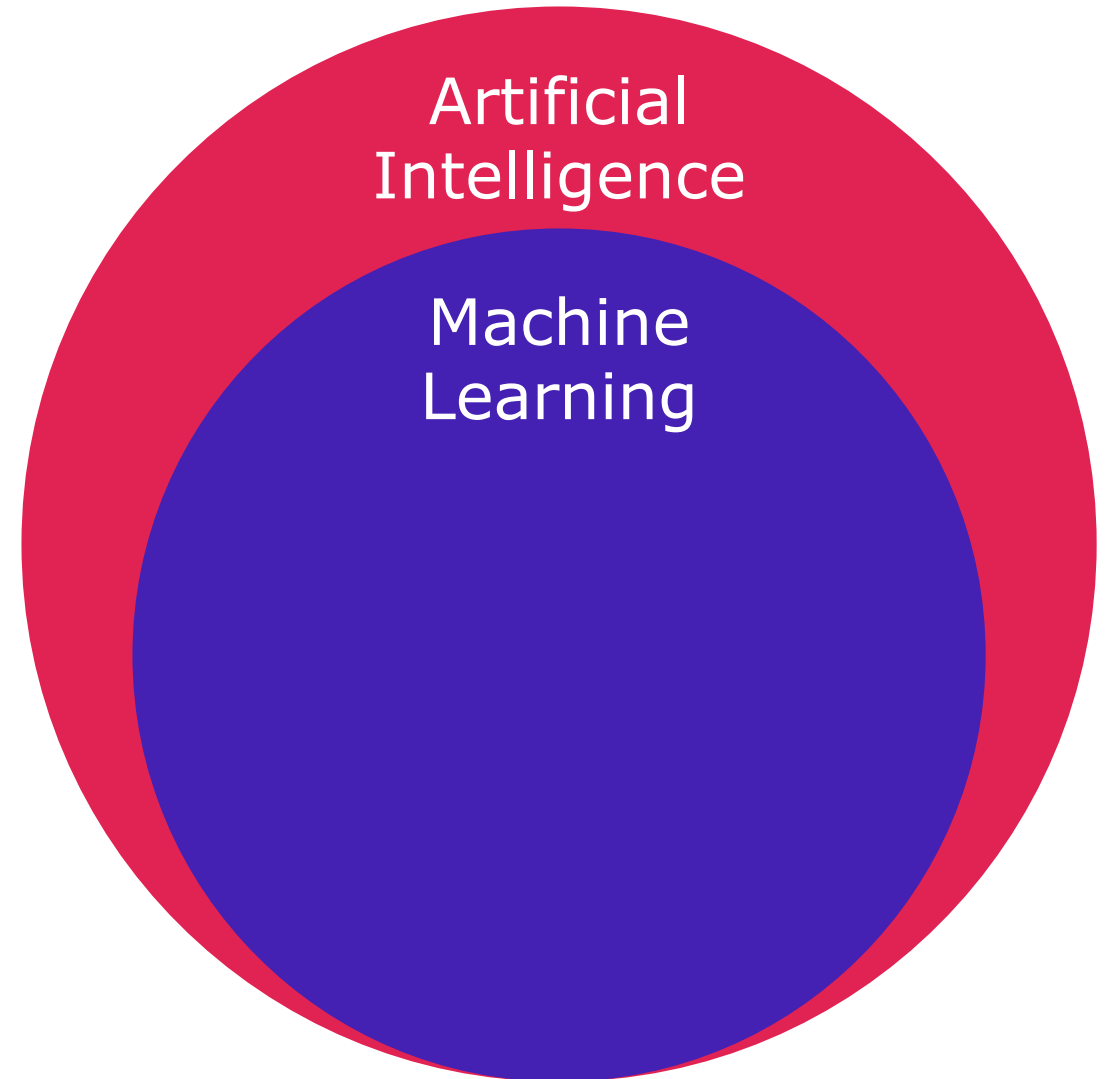
What is ML?

Machine Learning

Machine Learning

Enables computers to learn from data

A technique by which a computer can “learn” from data without using a complex set of rules. Mainly based on training a model from datasets



Innovations

ImageNet

Largest dataset of annotated images

- Created in 2009 @ Stanford University
- Creators: Fei-Fei Li & Jia Deng
- 14 million images
- 22 thousand categories of images

Large Scale Visual Recognition Challenge

ImageNet's Yearly AI Challenge to inspire and reward innovation

- Competition to achieve highest accuracy on the task
- Driven rapid advances
 - Computer vision
 - Deep learning
 - Many more

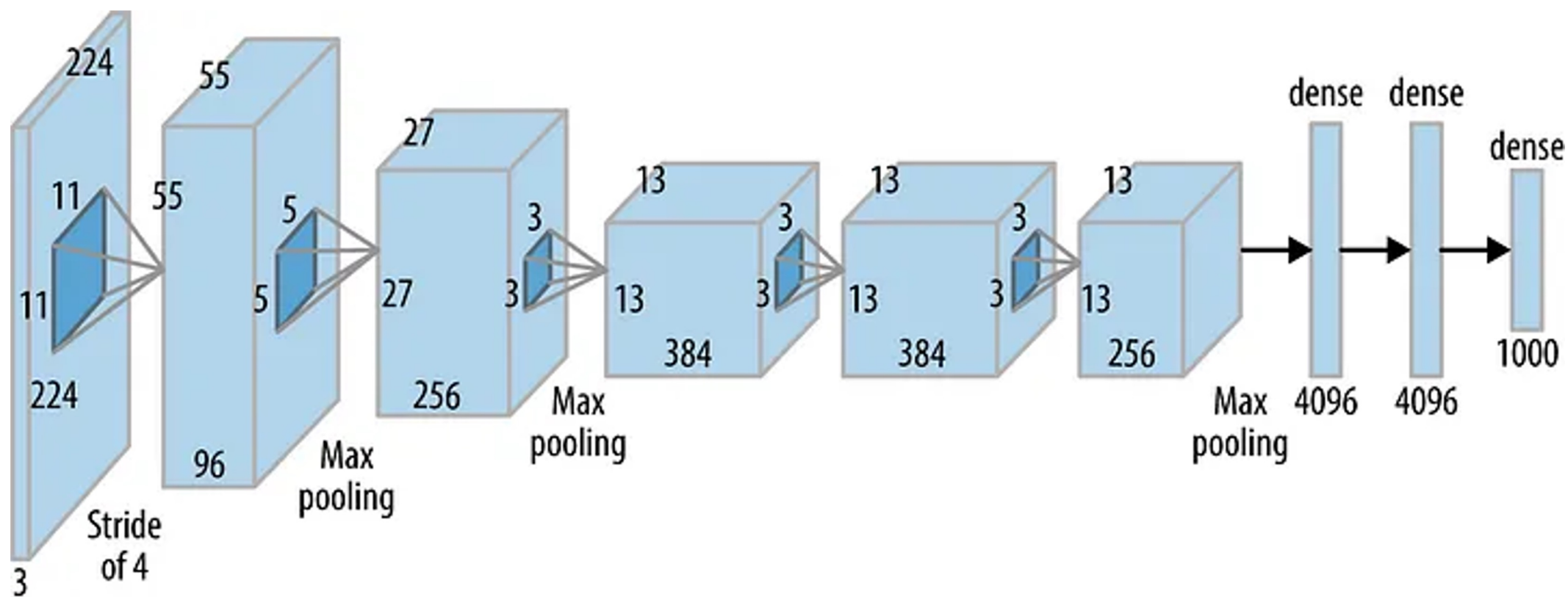
AlexNet

Winner, winner chicken dinner

- Convolutional Neural Network
- Demonstrated feasibility deep CNNs end-to-end
- 15.3% top-5 error rate!
- Enabled further innovation! (VGGNet, GoogLENet, ResNet, etc.)

AlexNet

AlexNet Block Diagram

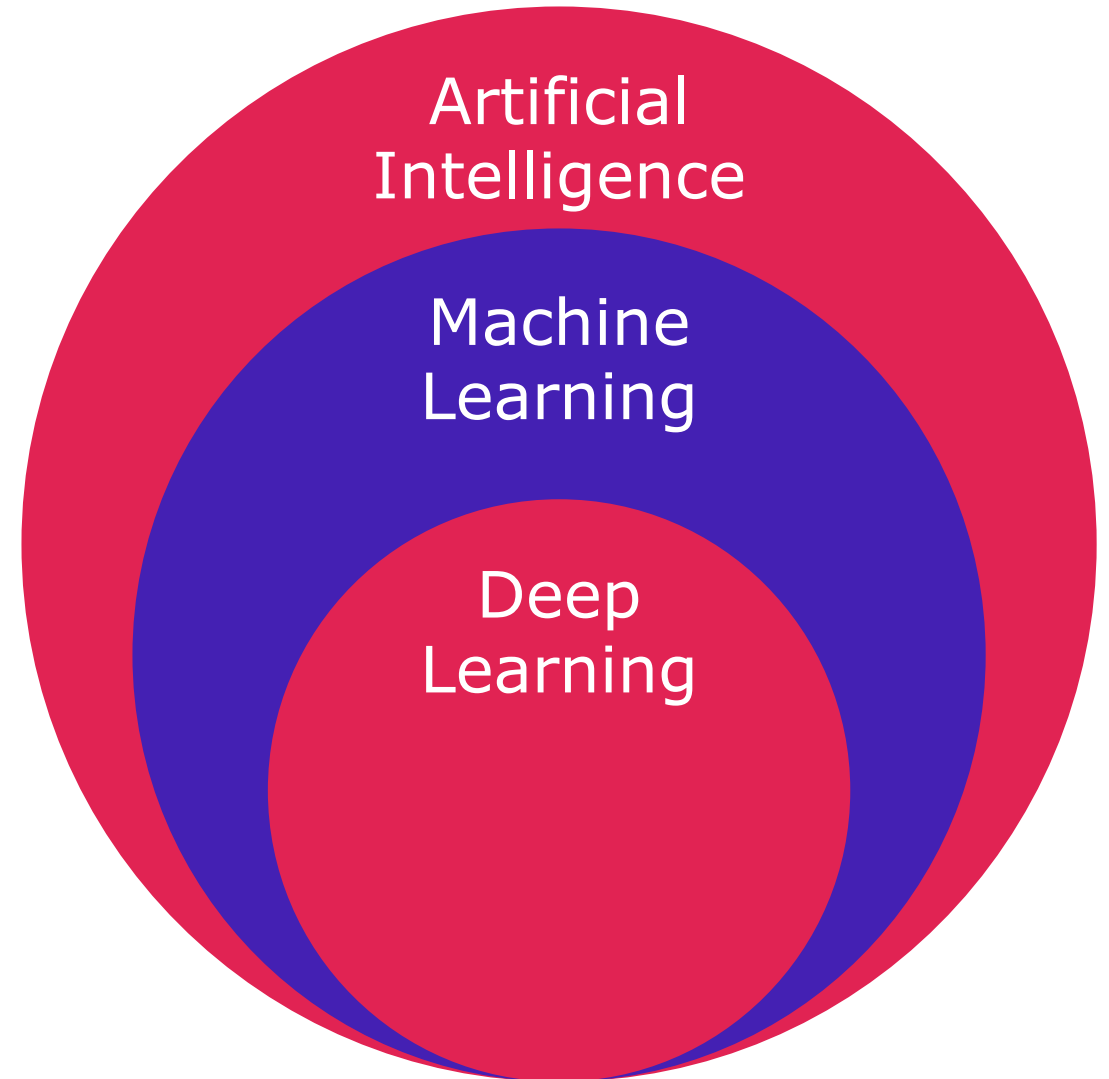


What is Deep Learning?

Deep Learning

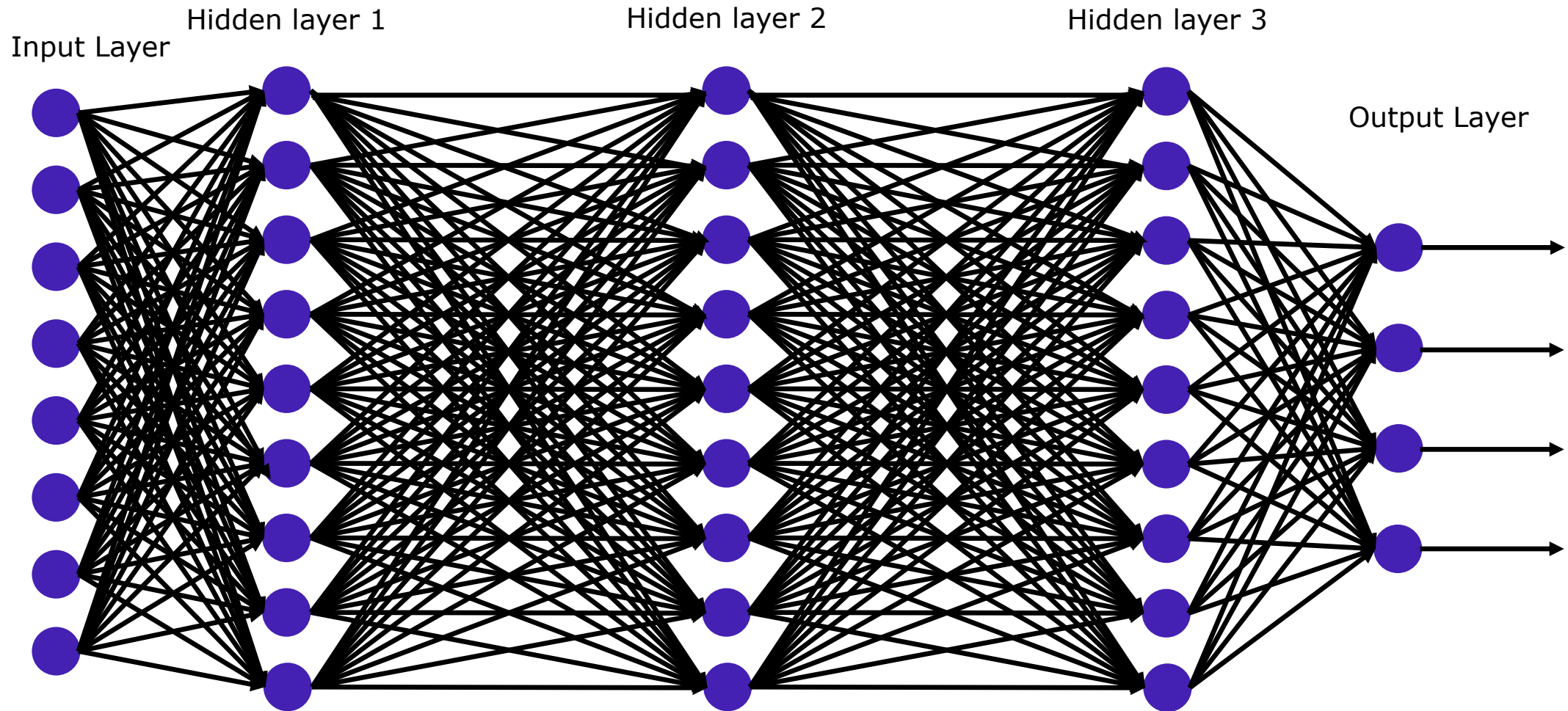
Pattern Recognition & Feature extraction w/ multi-layer neural networks

A technique to perform machine learning inspired by our brain's own network of neurons.



Deep Neural Networks

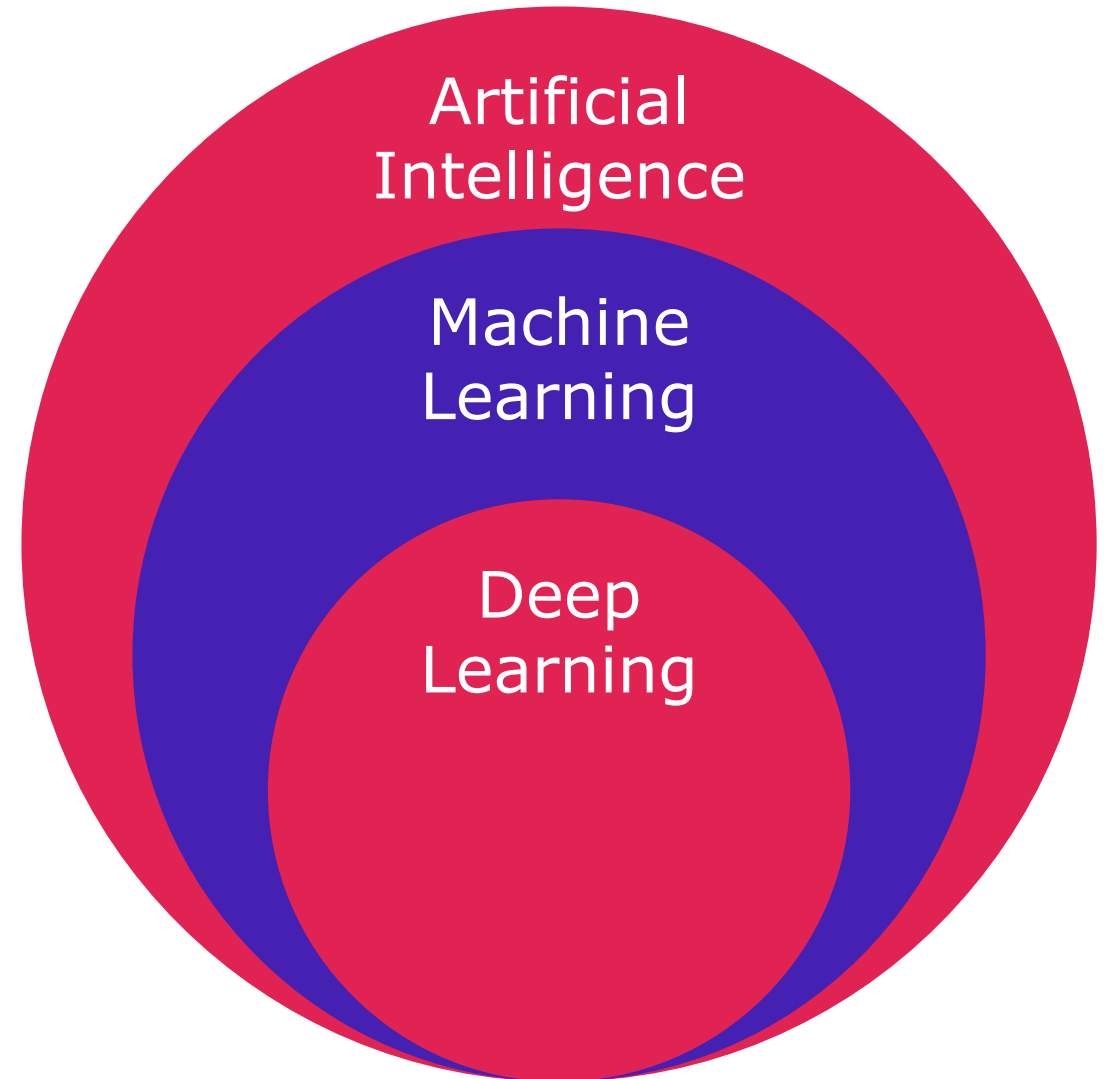
Inspired by the human brain



AI/ML and Deep Learning

Understanding how each subset fits into the overall picture

- Mimicking the intelligence or behavioral pattern of humans or any other living entity.
- A technique by which a computer can “learn” from data without using a complex set of rules. Mainly based on training a model from datasets
- A technique to perform machine learning inspired by our brain’s own network of neurons.



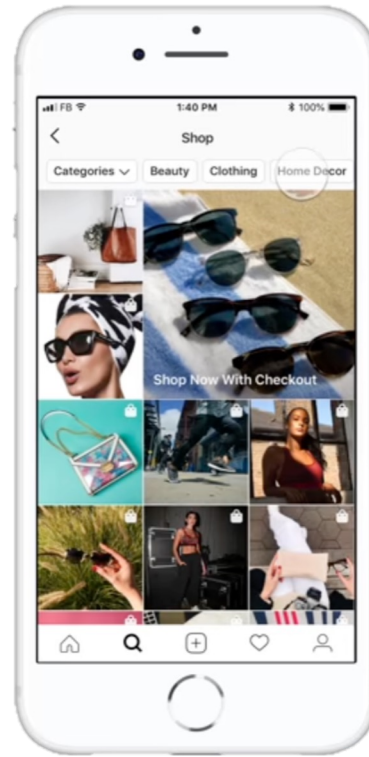
Deep Learning @ Meta

If you use Meta Products, DL is in your life

- News Feed Personalization
- Image and Video Recognition
- Language Translation
- Spam and Fake News Detection
- Predictive Analytics

How Deep Learning is used at Meta

Instagram's Explore recommender system



<https://ai.facebook.com/blog/powered-by-ai-instagrams-explore-recommender-system/>

Introduction

Deep Learning

Intro to PyTorch

Generative AI