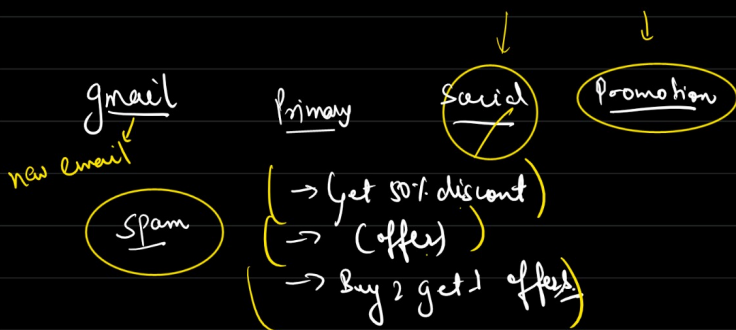* What is Machine Learning?

Arthur Samuel → 1959

The subfield of Computer Science that gives Computers the ability to learn without explicitly programmed.

⇓

Pattern in the data

→ Machines learns patterns from the data and replicate the same in future.

Virat Kohli

58
62
63
100
105
———
110

gmail   Primary   Social   Promotion

new email

Spam

(→ Get 50% discount)
(→ (offer))
(→ Buy 2 get 1 offer)

* Hope you are ---good.

* Predictive typing.

* A computer program is said to learn from Experience E with respect to some class of Tasks T and performance measure P if its performance at task T as measured by P improves with experience E.

↳ Tom Mitchell (1997)

* Motivations

→ Alexa

→ Credit Card Fraud
→ Sentiment Analysis
→ Autonomous Vehicle.

Task (T) — Classifying an email into spam/ham.

Experience (E) — Watching your label of email.

Performance (P) — The no of emails correctly classified.

Why ML is famous these days?

→ Advanced processor
→ Data is new oil.

A lot of data
⇓
Process this data
(advanced processors)
⇓
Valuable Insights
⇓
improves business performance.

ML styles
[→ Supervised Learning
[→ Unsupervised learning
→ Semi-Supervised learning
→ Reinforcement learning

AI vs ML vs DL vs DS

→ Artificial Intelligence
↓
describes how computer and technology mimics human intelligence.

(Smart applications that can perform a task without human intervention)

eg. Robots
eg. Self-driving car.

that focuses
On creating algorithms and statistical models to let computers learn and make predictions without explicitly programmed.
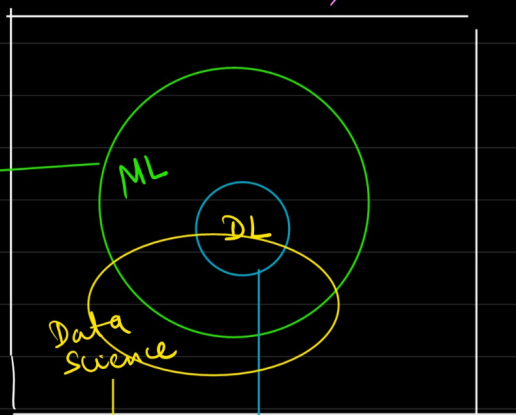
eg. Classifying an email spam or ham.
eg. Diabetic/not diabetic.
eg. Price of house.

→ Classification & Regression examples.

ML

DL

Data Science

Inter-disciplinary field comprised of CS, stats, ML & domain knowledge

Specialised ML algorithms that mimics human brain.

→ Multilayered Neural Network

eg. Chat gpt
eg. Recommendation
eg. Object detection
eg. Image recognition.

Amazon :— Recommendation System.
Netflix — ''