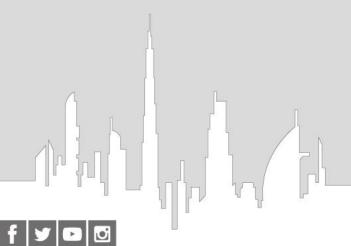


علم البيانات Data Science

حسان مشمـوشی



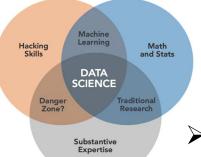












Data Science & Al

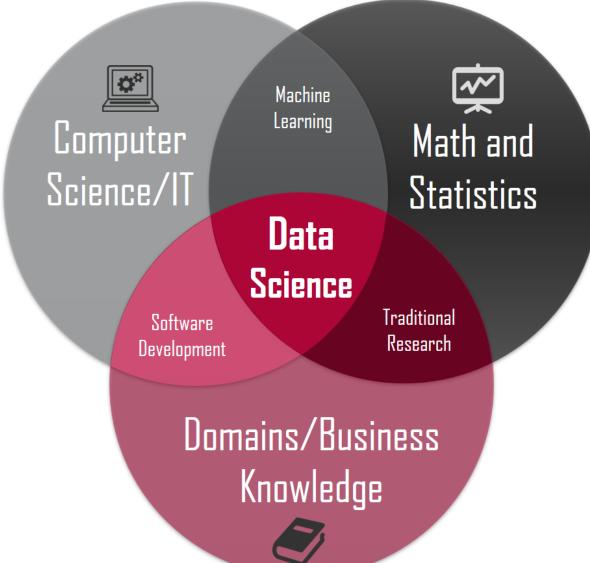
- Tools & Solutions
- Machine Learning
- > Applying Data Science
- Artificial Neural Network
- Deep Learning

مبادرة علم البيانات

- علم البيانات والذكاء الإصطناعي
 - 🗡 البرمجيات والحلول
 - 🗡 تدريب الآلة
 - 🗡 تطبيق علم البيانات
 - شبكة الأعصاب الصناعية
- 🗡 التعلم العميق في شبكة الأعصاب الصناعية

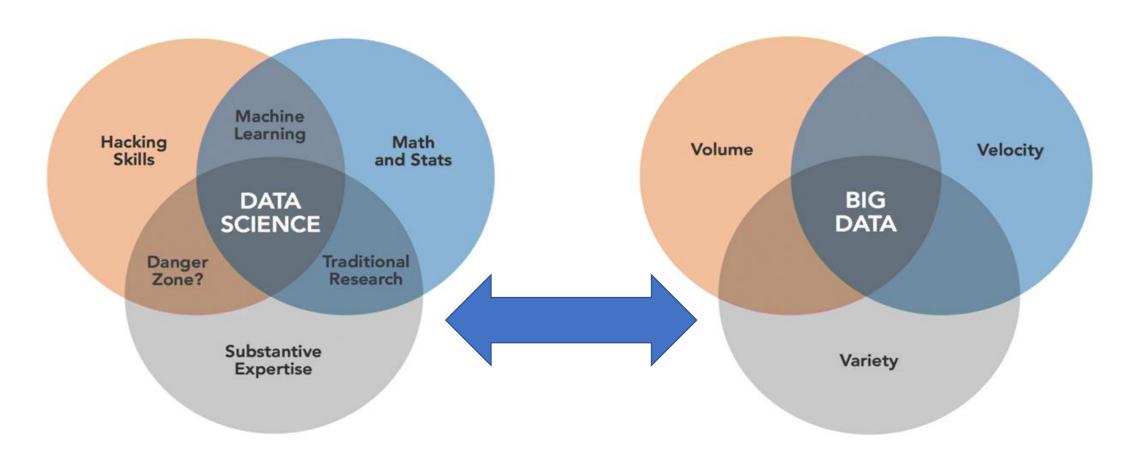








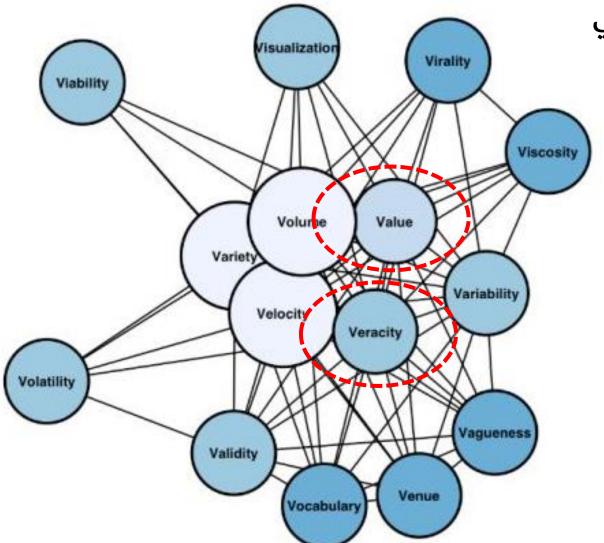


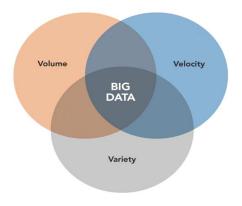


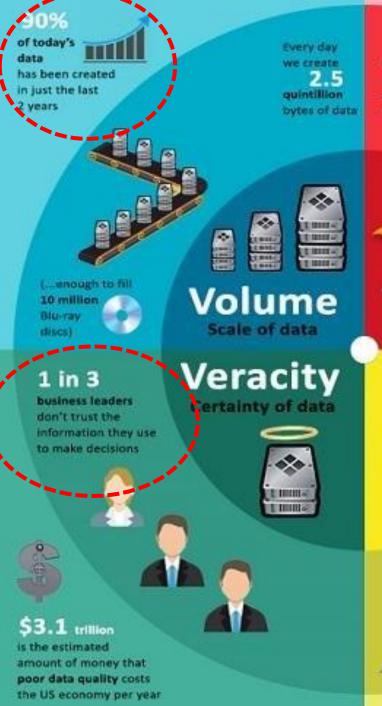










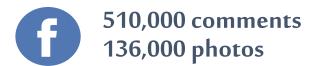






Every Minute









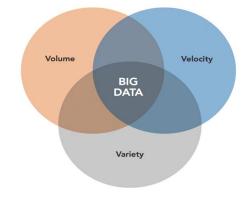














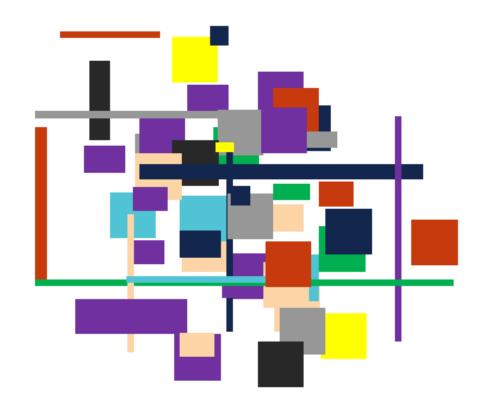


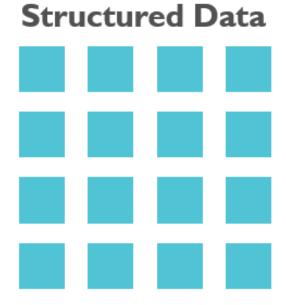






Unstructured Data











Data Engineering Scientific Domain Method Expertise Algorithms **Data Science** Analytics **Statistics** Visualization Advance Computing

آليات تطبيق علم البيانات







■ تحليل المشاعر

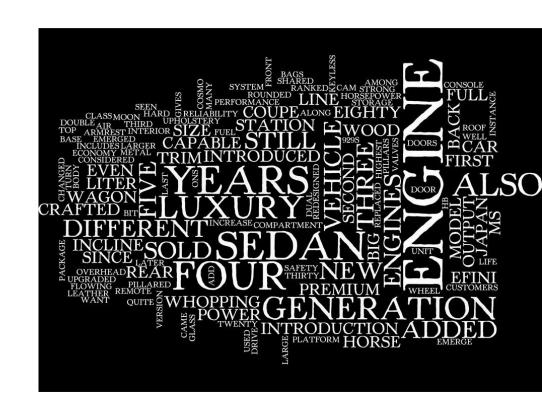
■ قراءة بيانات من الانترنت

Website

PDF

Open Data

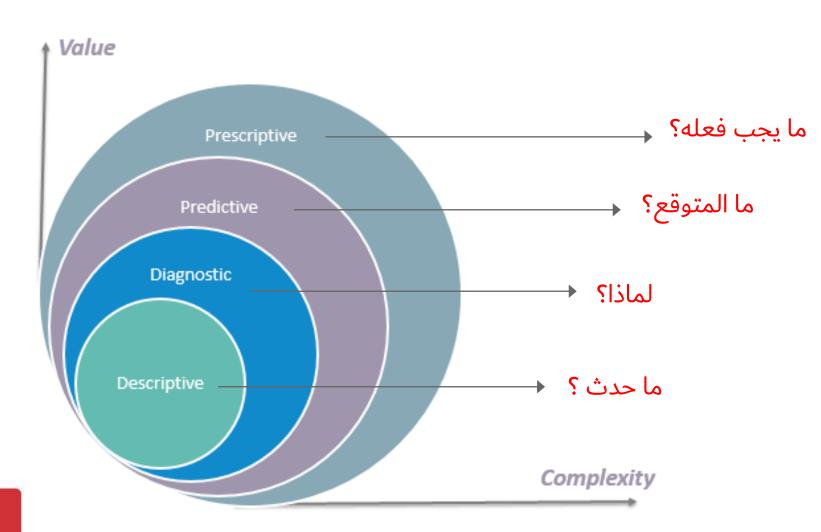
Social Media

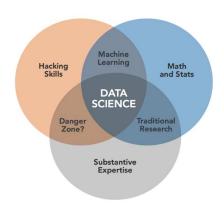










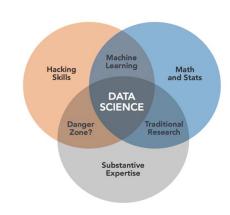












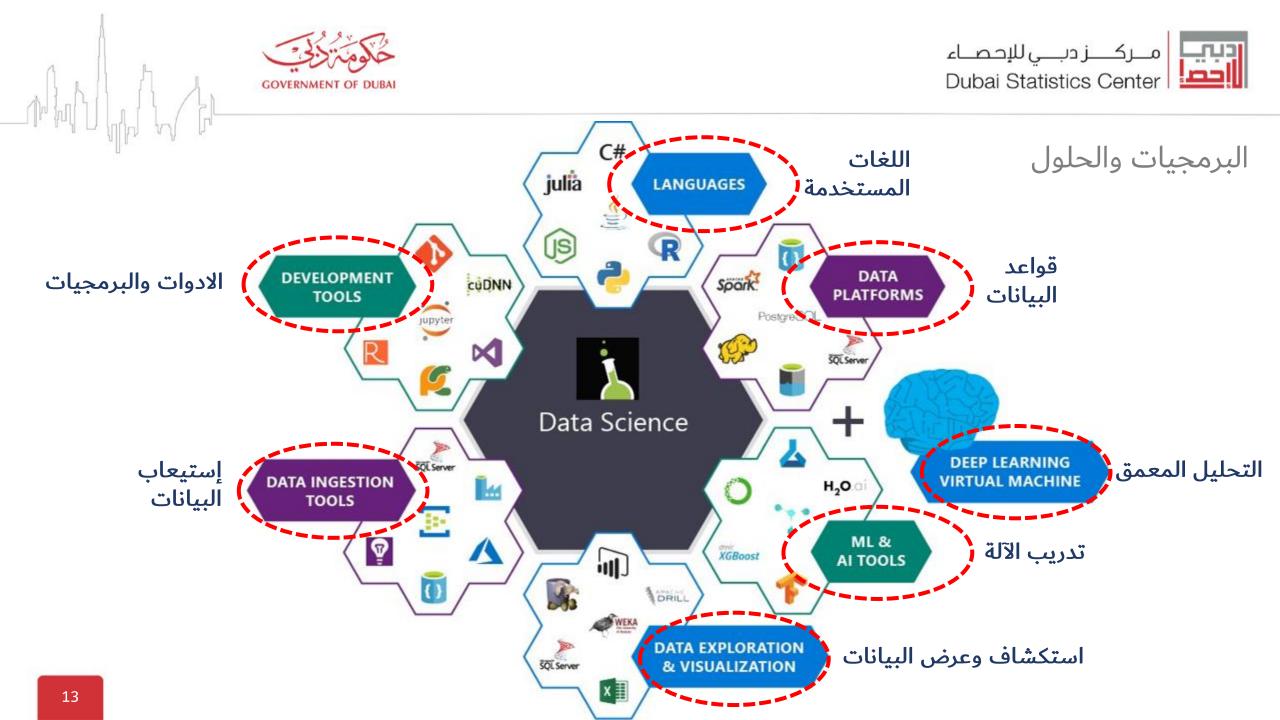


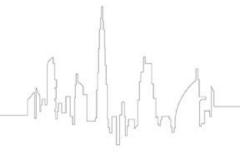




البرمجيات والحلول











البرمجيات والحلول





+10,000 Libraries

+100,000 Libraries

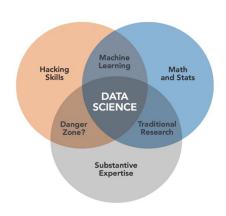
Examples ®







تدريب الآلة Machine Learning



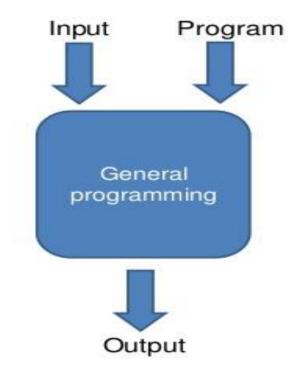






تدريب الآلة

General Programming



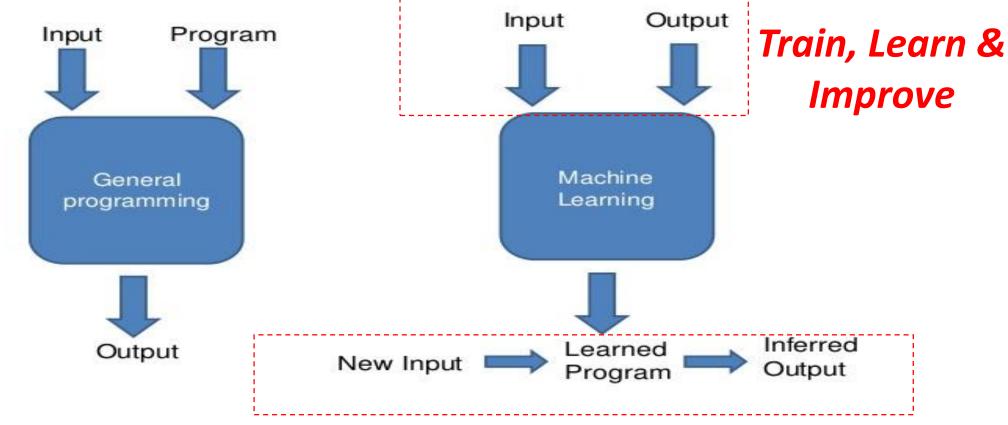




Is Machine Learning an Al

تدريب الآلة

General Programming vs Machine Learning



Re-train







تدريب الآلة

Artificial Intelligence

Machine Learning

Deep Learning

The subset of machine learning composed of algorithms that permit software to train itself to perform tasks, like speech and image recognition, by exposing multilayered neural networks to vast amounts of data.

A subset of AI that includes abstruse statistical techniques that enable machines to improve at tasks with experience. The category includes deep learning

Any technique that enables computers to mimic human intelligence, using logic, if-then rules, decision trees, and machine learning (including deep learning)







تدريب الآلة

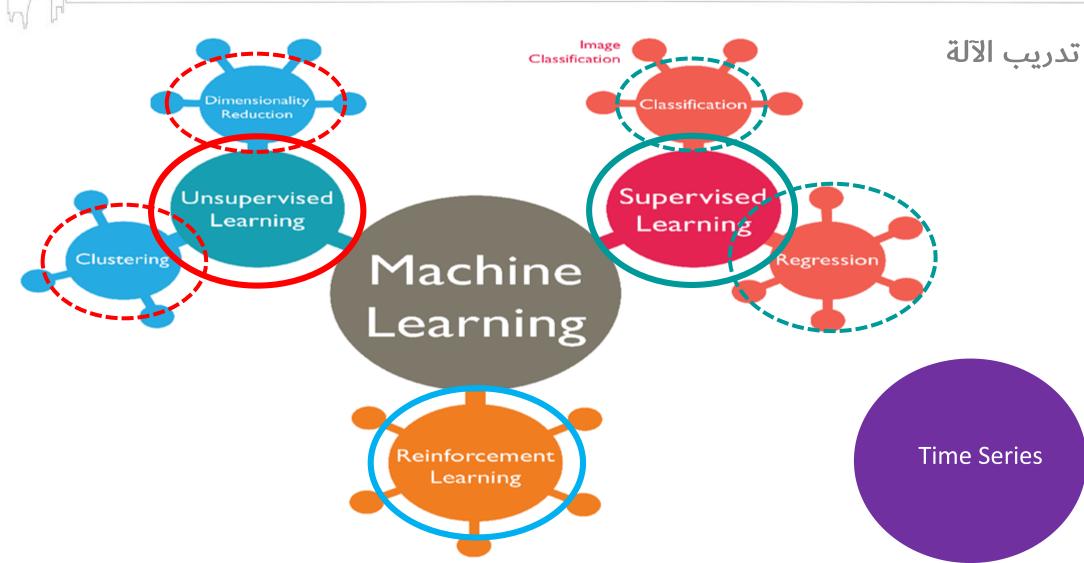
These persons do not exist!!!!















Supervised Learning Classification

	Gender	Nationality *	AgeGroup	Occupation	Values *	Stability	Financial	Promotion	Appreciation	Innovation	Development	SocialFactors	Retirement	Reputation	OverAll
1	Male	UAE	45-36	Middle Management	Нарру	Нарру	Neutral	Neutral	Нарру	Нарру	Neutral	Нарру	Нарру	Нарру	Нарру
2	Female	UAE	45-36	Middle Management	Нарру	Нарру	Neutral	Нарру	Нарру	Нарру	Нарру	Neutral	Neutral	Нарру	Нарру
3	Female	UAE	25-18	Executives	Нарру	Нарру	Neutral	Нарру	Нарру	Нарру	Нарру	Neutral	Neutral	Нарру	Нарру
4	Female	UAE	25-18	Skilled	Нарру	Нарру	Not Happy	Not Happy	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру
5	Female	Asia	45-36	Executives	Neutral	Нарру	Neutral	Neutral	Neutral	Neutral	Neutral	Нарру	Neutral	Нарру	Нарру
6	Male	Arab	45-36	Skilled	Neutral	Neutral	Not Happy	Neutral	Neutral	Not Happy	Not Happy	Нарру	Нарру	Нарру	Neutral
7	Male	UAE	35-26	Middle Management	Not Happy	Not Happy	Not Happy	Not Happy	Not Happy	Not Happy	Not Happy	Neutral	Not Happy	Not Happy	Not Hap
8	Female	UAE	35-26	Skilled	Neutral	Not Happy	Not Happy	Нарру	Нарру	Нарру	Нарру	Not Happy	Not Happy	Нарру	Нарру
9	Male	Arab	55-46	Middle Management	Neutral	Нарру	Neutral	Neutral	Neutral	Neutral	Neutral	Нарру	Not Happy	Нарру	Нарру
10	Female	UAE	55-46	Skilled	Нарру	Нарру	Not Happy	Not Happy	Neutral	Нарру	Нарру	Neutral	Not Happy	Нарру	Нарру
11	Female	UAE	45-36	Skilled	Not Happy	Нарру	Not Happy	Not Happy	Not Happy	Not Happy	Нарру	Нарру	Not Happy	Not Happy	Neutral
12	Male	UAE	55-46	Middle Management	Нарру	Нарру	Not Happy	Neutral	Нарру	Neutral	Нарру	Neutral	Not Happy	Neutral	Нарру
13	Female	UAE	35-26	Middle Management	Neutral	Neutral	Нарру	Нарру	Нарру	Нарру	Not Happy	Neutral	Not Happy	Нарру	Нарру
14	Female	Asia	35-26	Skilled	Нарру	Neutral	Neutral	Neutral	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру
15	Male	UAE	45-36	Executives	Not Happy	Not Happy	Not Happy	Not Happy	Neutral	Not Happy	Neutral	Neutral	Not Happy	Not Happy	Not Hap
16	Male	UAE	55-46	Others	Not Happy	Neutral	Neutral	Not Happy	Not Happy	Not Happy	Neutral	Neutral	Нарру	Нарру	Neutral
17	Male	UAE	55-46	Executives	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Neutral	Нарру	Нарру
18	Male	Arab	56 +	Skilled	Нарру	Not Happy	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру
19	Female	UAE	35-26	Executives	Нарру	Нарру	Not Happy	Нарру	Нарру	Нарру	Нарру	Нарру	Not Happy	Нарру	Нарру
20	Male	UAE	35-26	Skilled	Нарру	Not Happy	Not Happy	Not Happy	Not Happy	Neutral	Not Happy	Not Happy	Not Happy	Neutral	Neutral
21	Male	UAE	45-36	Skilled	Neutral	Not Happy	Not Happy	Not Happy	Neutral	Neutral	Neutral	Нарру	Not Happy	Neutral	Neutral
22	Male	UAE	55-46	Middle Management	Not Happy	Not Happy	Not Happy	Neutral	Not Happy	Neutral	Neutral	Neutral	Not Happy	Нарру	Neutral
23	Male	Arab	56 +	Skilled	Neutral	Neutral	Нарру	Not Happy	Нарру	Нарру	Neutral	Нарру	Neutral	Нарру	Нарру
24	Male	UAE	35-26	Şkilled	Neutral	Happy Class1 (w1) Class2 (w2)	Happy	Нарру	Нарру	Нарру	Neutral	Нарру	Not Happy	Нарру	Нарру





Supervised Learning Classification

•	Gender [‡]	Nationality [‡]	AgeGroup [‡]	Occupation	Values [‡]	Stability [‡]	Financial [‡]	Promotion [‡]	Appreciation [‡]	Innovation †	Development ÷	SocialFactors [‡]	Retirement ÷	Reputation
1	Male	UAE	45-36	Middle Management	Нарру	Нарру	Neutral	Neutral	Нарру	Нарру	Neutral	Нарру	Нарру	Нарру
2	Female	UAE	45-36	Middle Management	Нарру	Нарру	Neutral	Нарру	Нарру	Нарру	Нарру	Neutral	Neutral	Нарру
3	Female	UAE	25-18	Executives	Нарру	Нарру	Neutral	Нарру	Нарру	Нарру	Нарру	Neutral	Neutral	Нарру
4	Female	UAE	25-18	Skilled	Нарру	Нарру	Not Happy	Not Happy	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру
5	Female	Asia	45-36	Executives	Neutral	Нарру	Neutral	Neutral	Neutral	Neutral	Neutral	Нарру	Neutral	Нарру
6	Male	Arab	45-36	Skilled	Neutral	Neutral	Not Happy	Neutral	Neutral	Not Happy	Not Happy	Нарру	Нарру	Нарру
7	Male	UAE	35-26	Middle Management	Not Happy	Not Happy	Not Happy	Not Happy	Not Happy	Not Happy	Not Happy	Neutral	Not Happy	Not Happy
8	Female	UAE	35-26	Skilled	Neutral	Not Happy	Not Happy	Нарру	Нарру	Нарру	Нарру	Not Happy	Not Happy	Нарру
9	Male	Arab	55-46	Middle Management	Neutral	Нарру	Neutral	Neutral	Neutral	Neutral	Neutral	Нарру	Not Happy	Нарру
10	Female	UAE	55-46	Skilled	Нарру	Нарру	Not Happy	Not Happy	Neutral	Нарру	Нарру	Neutral	Not Happy	Нарру
11	Female	UAE	45-36	Skilled	Not Happy	Нарру	Not Happy	Not Happy	Not Happy	Not Happy	Нарру	Нарру	Not Happy	Not Happy
12	Male	UAE	55-46	Middle Management	Нарру	Нарру	Not Happy	Neutral	Нарру	Neutral	Нарру	Neutral	Not Happy	Neutral
13	Female	UAE	35-26	Middle Management	Neutral	Neutral	Нарру	Нарру	Нарру	Нарру	Not Happy	Neutral	Not Happy	Нарру
14	Female	Asia	35-26	Skilled	Нарру	Neutral	Neutral	Neutral	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру
15	Male	UAE	45-36	Executives	Not Happy	Not Happy	Not Happy	Not Happy	Neutral	Not Happy	Neutral	Neutral	Not Happy	Not Happy
16	Male	UAF	55-46	Others	Not Hanny	Neutral	Neutral	Not Happy	Not Hanny	Not Happy	Neutral	Neutral	Hanny	Hanny
17	Male	UAE	55-46	Executives	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Neutral	Нарру
18	Male	Arab	56 +	Skilled	Нарру	Not Happy	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру	Нарру
19	Female	UAE	35-26	Executives	Нарру	Нарру	Not Happy	Нарру	Нарру	Нарру	Нарру	Нарру	Not Happy	Нарру
20	Male	UAE	35-26	Skilled	Нарру	Not Happy	Not Happy	Not Happy	Not Happy	Neutral	Not Happy	Not Happy	Not Happy	Neutral
21	Male	UAE	45-36	Skilled	Neutral	Not Happy	Not Happy	Not Happy	Neutral	Neutral	Neutral	Нарру	Not Happy	Neutral
22	Male	UAE	55-46	Middle Management	Not Happy	Not Happy	Not Happy	Neutral	Not Happy	Neutral	Neutral	Neutral	Not Happy	Нарру
23	Male	Arab	56 +	Skilled	Neutral	Neutral	Нарру	Not Happy	Нарру	Нарру	Neutral	Нарру	Neutral	Нарру

70%

30%







Supervised - Association Rules



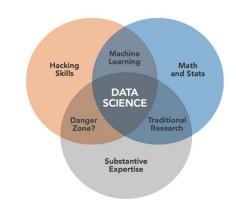








آليات تطبيق علم البيانات Applying Data Science





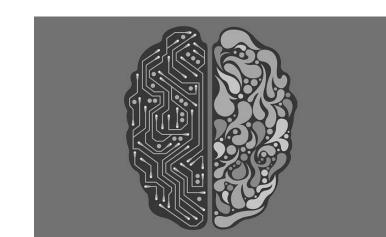




آليات تطبيق علم البيانات



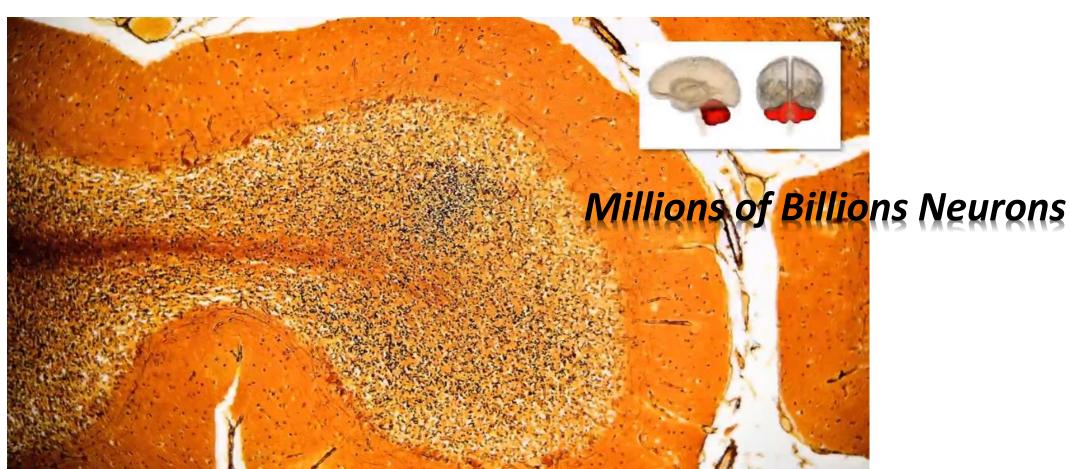
شبكة الأعصاب الصناعية Artificial Neural Network









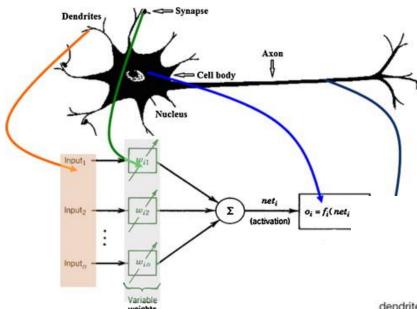




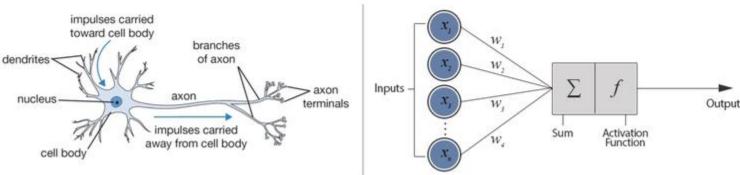




Artificial Neural Network



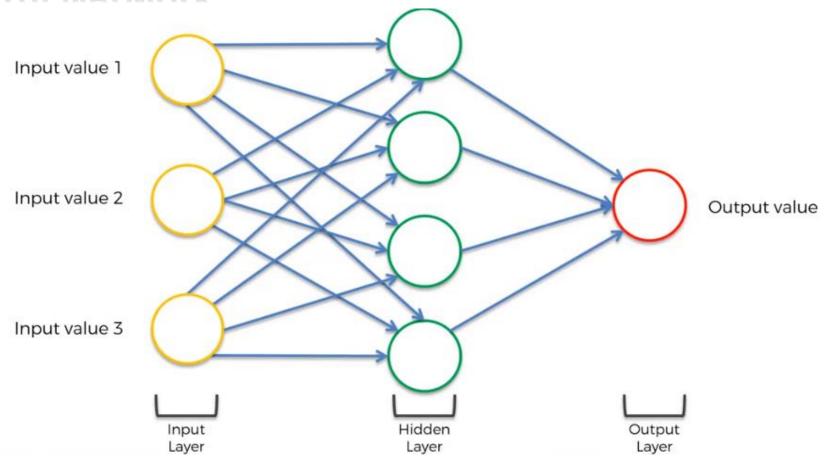
Biological Neuron versus Artificial Neural Network





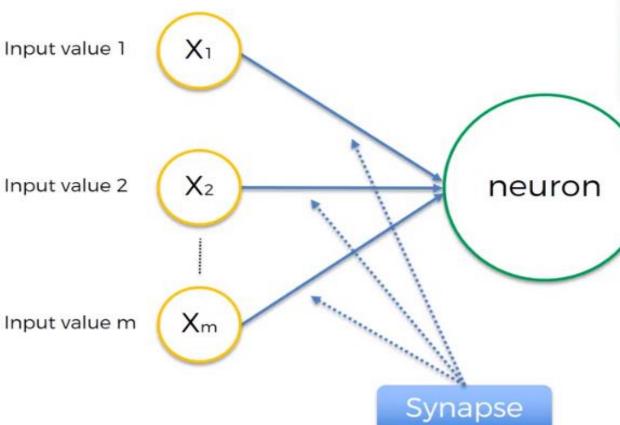


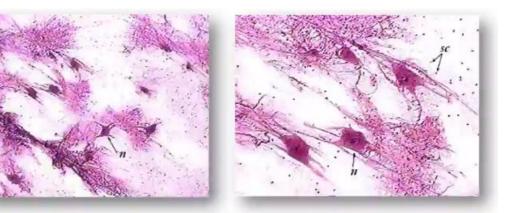


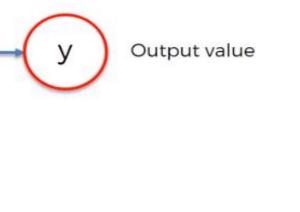


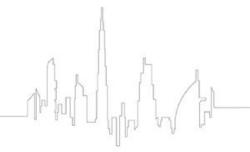






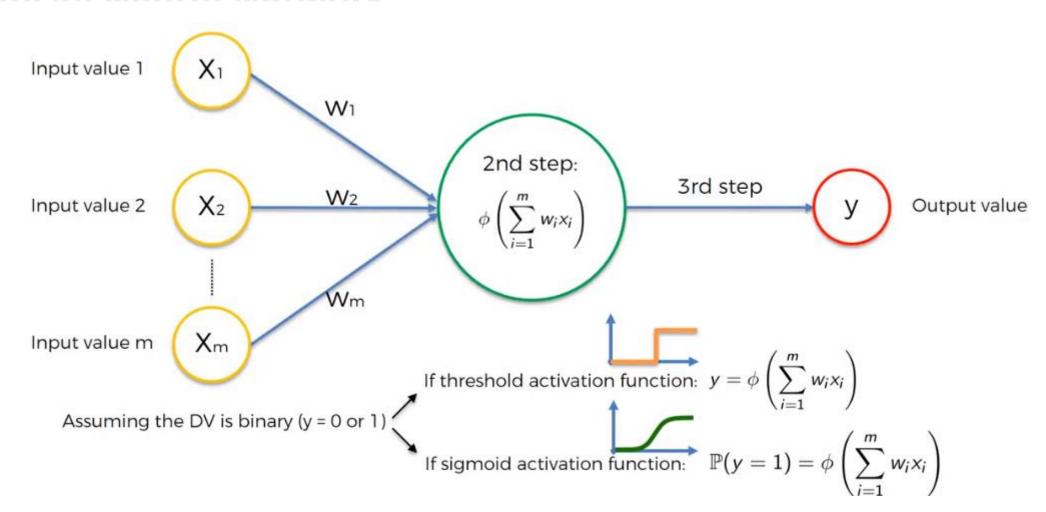








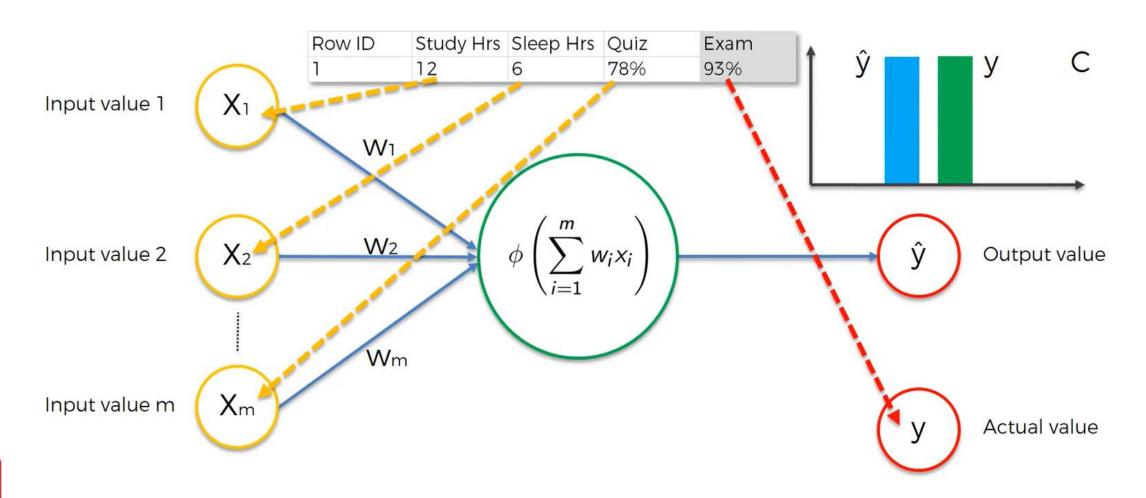


















التعلم العميق في شبكة الأعصاب الصناعية Deep Learning

Artificial Intelligence

Machine Learning

Deep Learning

The subset of machine learning composed of algorithms that permit software to train itself to perform tasks, like speech and image recognition, by exposing multilayered neural networks to vast amounts of data.

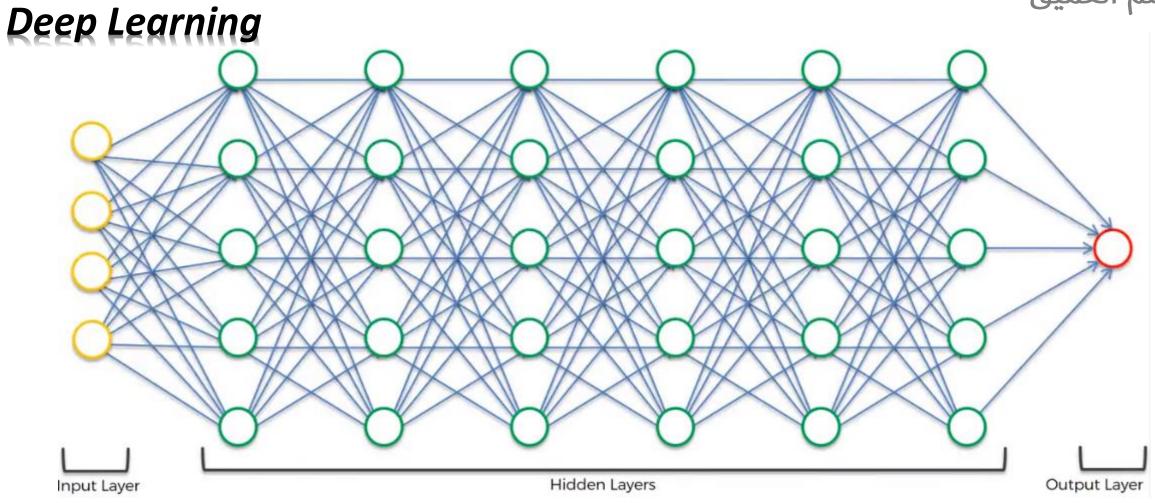
A subset of Al that includes abstruse statistical techniques that enable machines to improve at tasks with experience. The category includes deep learning

Any technique that enables computers to mimic human intelligence, using logic, if-then rules, decision trees, and machine learning (including deep learning)



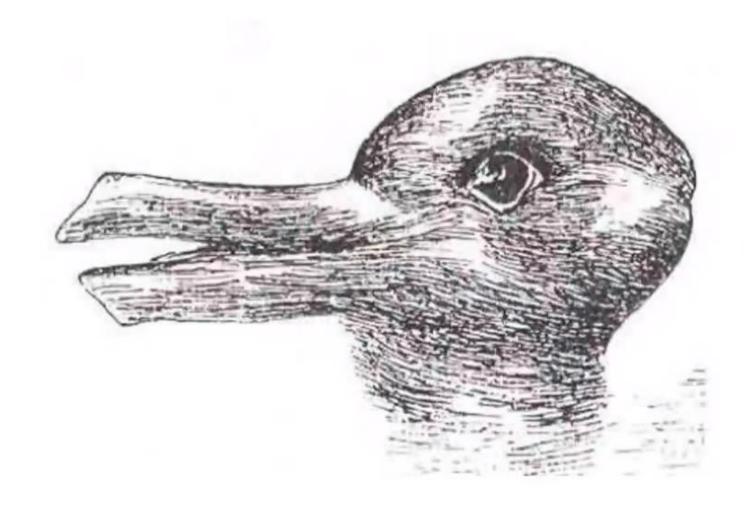








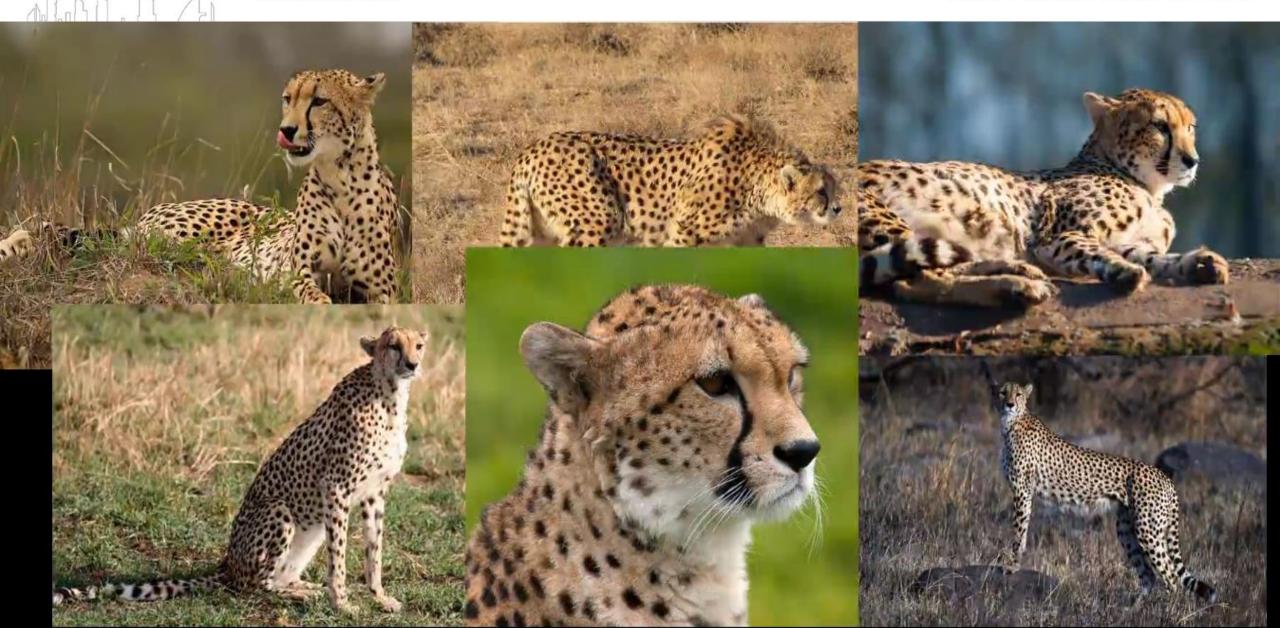








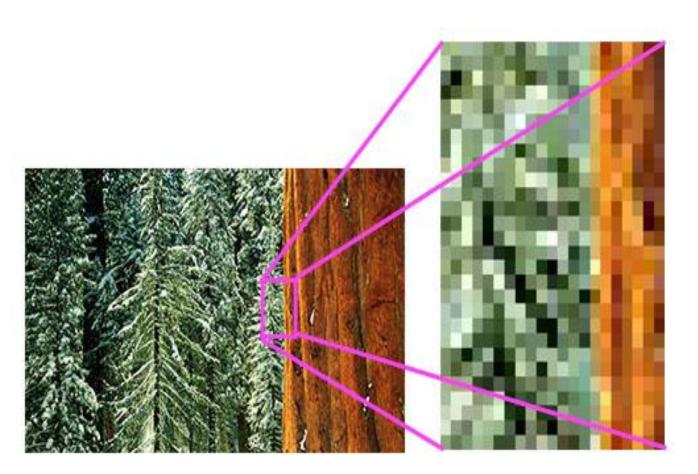












How the pixels look:

0	1	2	3	4
5	6	7	8	9
10	11	12	13	14
15	16	17	18	19
20	21	22	23	24

How the pixels are stored:

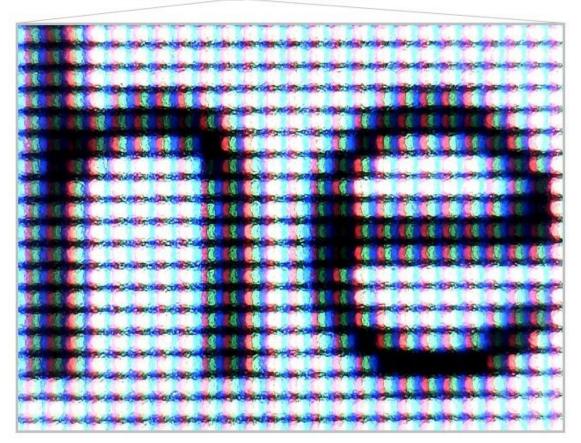
0	1	2	3	4	5	6	7	8	9			
- 62	177	95	175	570	1.20	073748	50	10.7	70	. 52.	.86	



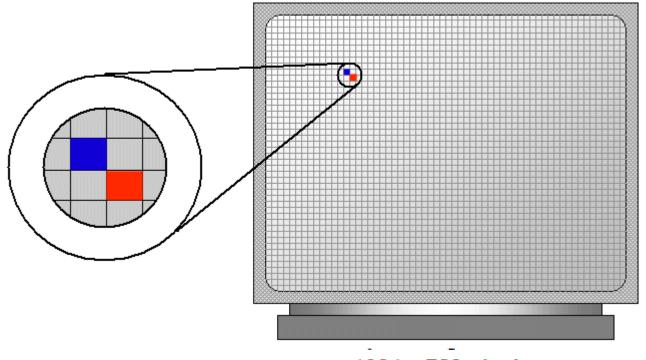




Free computer help and information



التعلم العميق



1024 x 768 pixels.

A Full **HD TV** (1080P) has 1920x1080 pixels,







B/W Image 2x2px

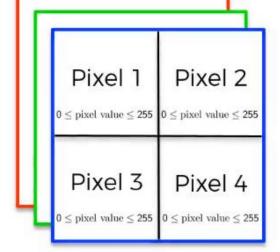
Pixel 1	Pixel 2	2d array
Pixel 3	Pixel 4	

Pixel 1 0 ≤ pixel value ≤ 255	Pixel 2 0 \le pixel value \le 255
Pixel 3 0 ≤ pixel value ≤ 255	Pixel 4 0 ≤ pixel value ≤ 255

Colored Image 2x2px

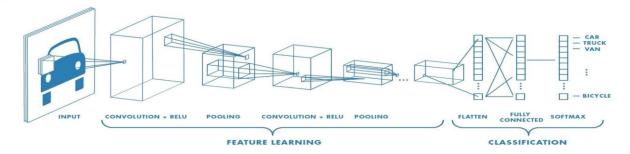
Pixel 1	Pixel 2
Pixel 3	Pixel 4

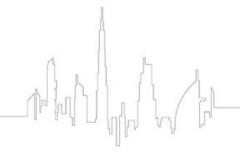
3d array





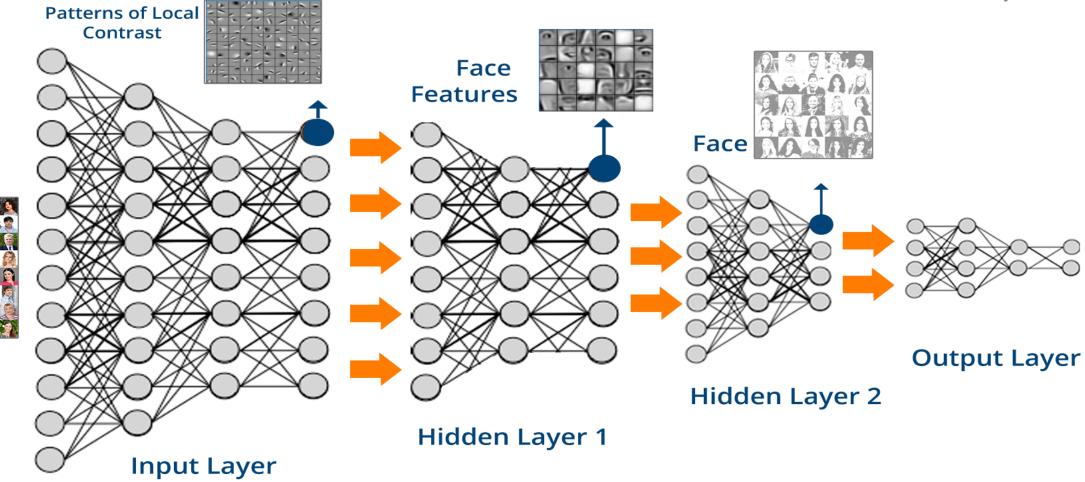


















Recurrent Neural Network - RNN

```
0000000000000000
/11/11/11/11/11/11
222222222222
555555555555555
6666666666666
ファチ17ァフフフフフフフ)ァ
8888888888888888
9999999999999
```

























Udemy





IBM Analytics
University
IBM.

أسئلة شكرأ

