I'm SUDHA JAMTHE

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Remember, I am here to help.

CLASS SESSION 3

4P Approach to Problem Statement

What is the Business Problem?

What are the Pain Points? Why is this a Problem for the Business?

Which Person/Persona is affected by the Problem?

Prepare to Solve the Problem (many use cases, pick one)

Data Scientist will think about the model when refining the Problem Statement. AS A BUSINESS USER, YOU NEVER LOSE FOCUS ON THE CUSTOMER.

Role Play: Scope the Problem Statement for the Vendor

Roles in an AI Team

- **Business User - Identify the Problem**
- **Data Engg - Get Data**
- **ML Engg - Develp & deploy the model**
- **Data Viz experts - Create Vizualization**
- **BU - Consumer Output and get business outcome**
- **BU - provide feedback to ML Engg**
- **ML Engg - Iterate model**
- **MLOps - Manage the DevOps data and model versions with ownership**
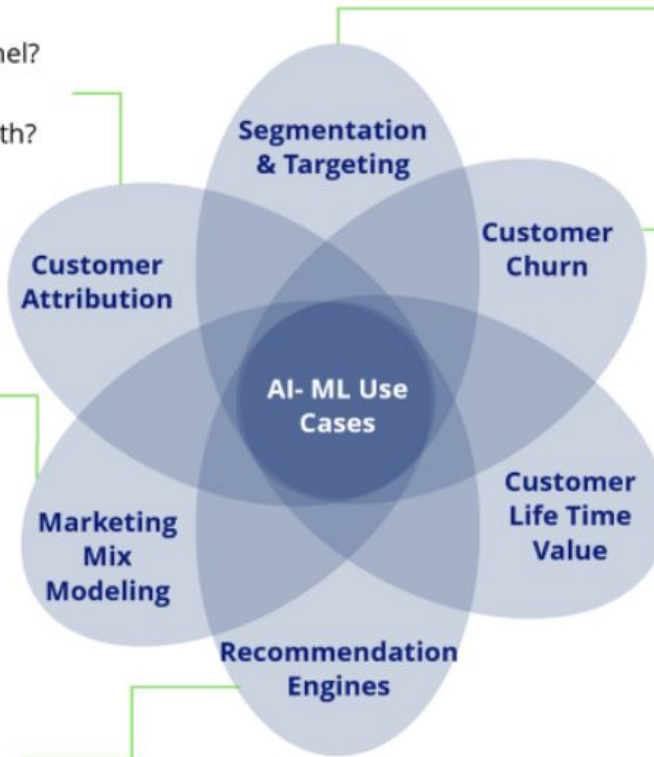
Discussion: Role of an AI Translator

Ref: McKinsey estimates 4 million AI Translators by 2026. (2018 article, I don't agree fully but its a start)

Ref:https://www.mckinsey.com/business-functions/mckinsey-analytics/our-insights/analytics-translator

- What is the most profitable channel?
- How do customers want to be marketed to or communicated with?

- How effective are our current marketing initiatives?
- Which types of marketing programs deliver the best ROI?

- What are the specific products customers will buy based on their past behavior (Like this like that)
- What opportunities exist to expand cross-category customer spending?

Segmentation & Targeting

Customer Attribution

AI- ML Use Cases

Customer Churn

Marketing Mix Modeling

Customer Life Time Value

Recommendation Engines

- How do specific categories and/or products perform within various customer groups and channels?
- What opportunities exist to expand cross-category customer spending?

- What are the signals of customer attrition?
- How can customer retention rates be increased?

- What variables comprise customer value and to what degree does each contribute?
- What corresponds with greater purchase frequency and spend?
- What are customers within different value groups looking for?

Common Machine Learning Use Cases for Marketers

Credit:

Algorithms: Model

Algorithms: Is your training data structured or unstructured?

Unstructured data
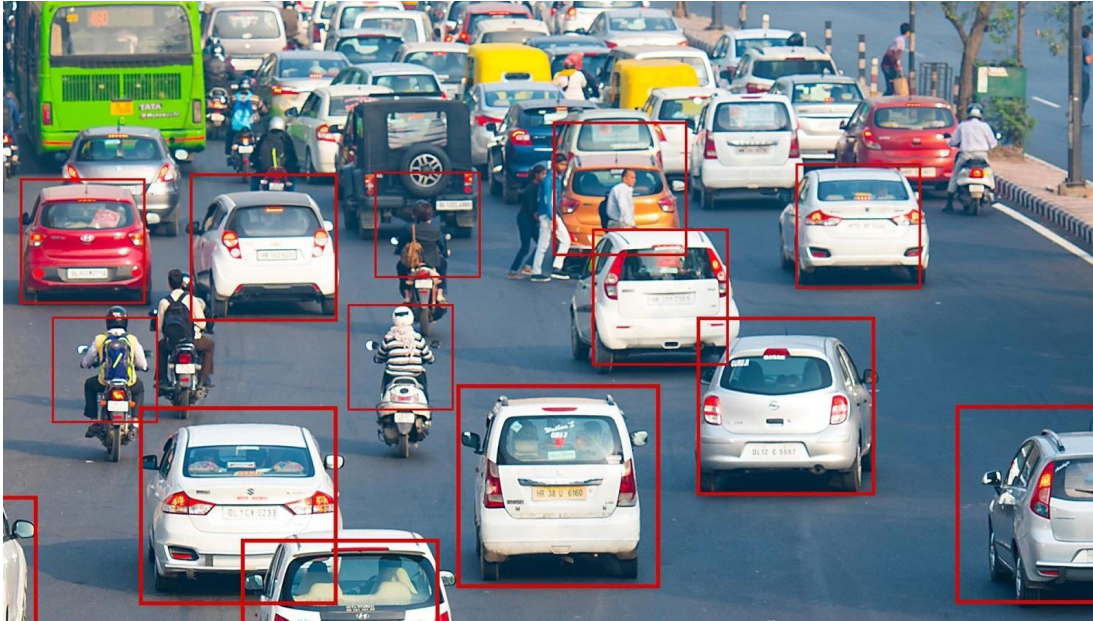
Unsupervised Learning (or)

Deep Learning

Structured data

CUSTOMERID	GENDER	SENIORCITIZEN	PARTNER	DEPENDENTS	TE
9505-CDSKC	Female	0	No	No	8
1452-KIOVK	Male	0	No	Yes	22
6713-OKOMC	Female	0	No	No	10
7892-POOKP	Female	0	Yes	No	28
6388-TABGU	Male	0	No	Yes	62
9763-GRSKD	Male	0	Yes	Yes	13
7469-LKBCI	Male	0	No	No	16

Supervised Learning (or) Machine Learning

Regression	Classification	Clustering
• Supervised Learning	• Supervised Learning	• Unsupervised Learning
• Output is a continuous quantity	• Output is a categorical quantity	• Assigns data points into clusters
• Main aim is to forecast or predict	• Main aim is to compute the category of the data	• Main aim is to group similar items clusters
• Eg: Predict stock market price	• Eg: Classify emails as spam or non-spam	• Eg: Find all transactions which are fraudulent in nature
• Algorithm: Linear Regression	• Algorithm: Logistic Regression	• Algorithm: K-means

Type Of Problems Solved Using AI – Artificial Intelligence Algorithms – Edureka

Machine Learning Techniques

MACHINE LEARNING

UNSUPERVISED LEARNING
Group and interpret data based only on input data

CLUSTERING

SUPERVISED LEARNING
Develop predictive model based on both input and output data

CLASSIFICATION

REGRESSION

Credit: MatLab
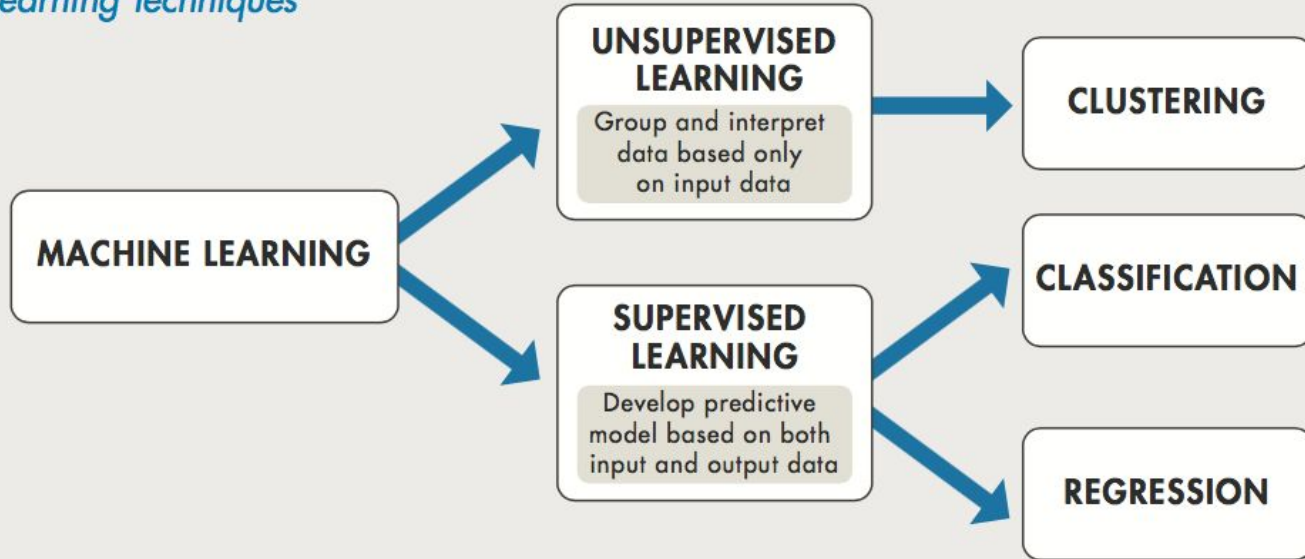
Lets play a game called "Is this Machine Learning"?

1. INCREASE REVENUE: MARKETING

Figure 3 : When All Customers Within a Segment Receive the Same Marketing Content

Source: DataRobot

NEXT BEST ACTION ALGORITHM

Figure 4 : Evaluating the Value of Each Possible Touchpoint

Voice Assistant
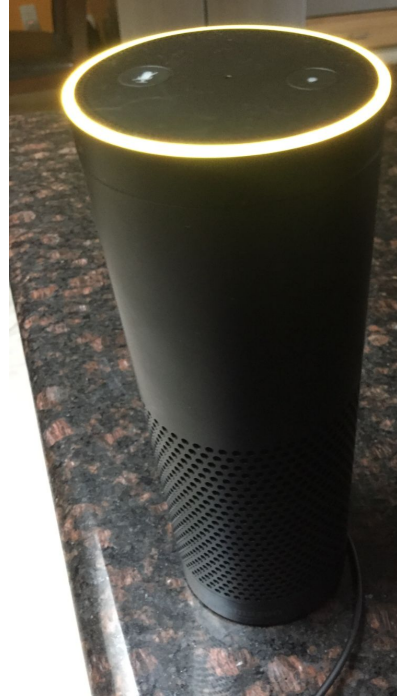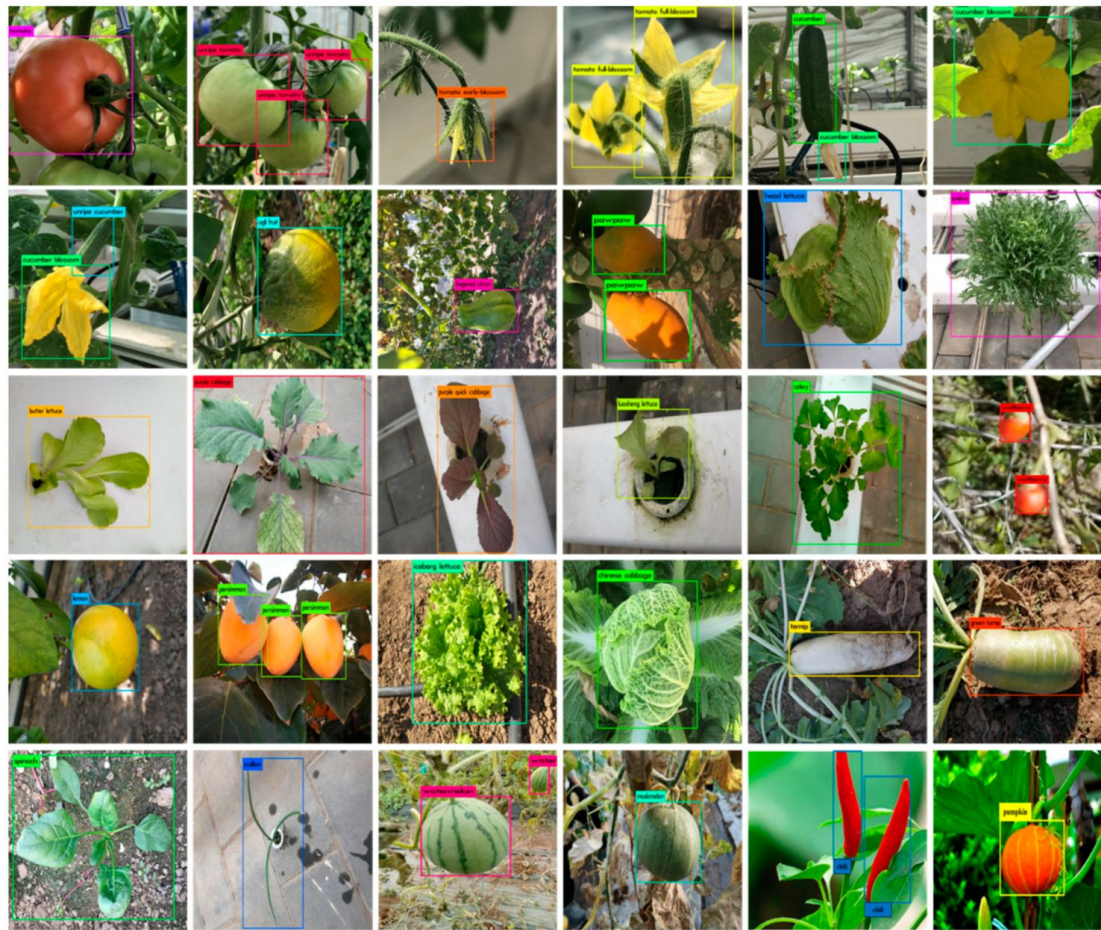
Computer Vision of Fruits used in Smart Agriculture

FINANCE: FRAUD DETECTION

image credit: Madhav Mishra   #WeeklyWed #live with Sudha Jamthe
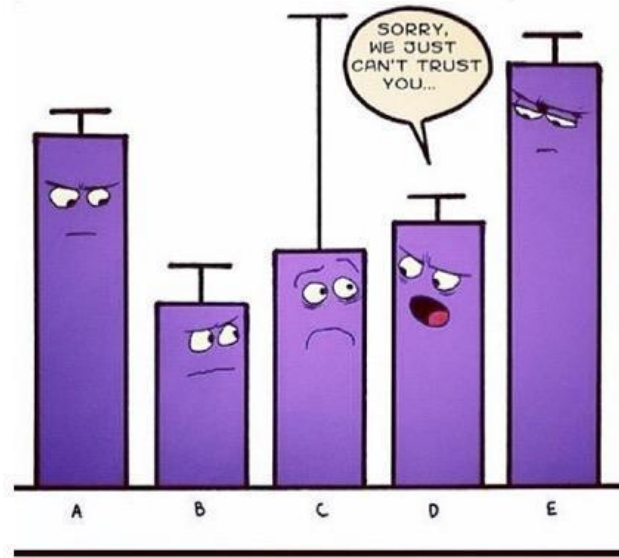
AI: Machine Learning vs. Deep Learning (Neural Networks)

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Top Tech Companies that Rule the World

	Symbol	Company	Entry Price	Last Price	% Change ↓	Market Cap (B)
1	NVDA	NVIDIA Corporation	$154.26	$191.17	19.31%	$116.33
2	AMD	Advanced Micro Devices, Inc.	$23.53	$28.46	17.32%	$30.78
3	AAPL	Apple Inc.	$173.15	$207.16	16.42%	$976.82
4	AMZN	Amazon.com, Inc.	$1,639.83	$1,901.75	13.77%	$935.76
5	F	Facebook, Inc.	$161.45	$182.58	11.57%	$521.38
6	GOOG	Alphabet Inc.	$1,119.92	$1,256.00	10.83%	$874.70
7	MSFT	Microsoft Corporation	$112.03	$125.01	10.38%	$959.10
8	MTCH	Match Group, Inc.	$55.38	$61.65	10.17%	$17.17
9	ATVI	Activision Blizzard, Inc.	$42.14	$46.75	9.86%	$35.71
10	INTC	Intel Corporation	$52.96	$58.00	8.69%	$264.16
11	PYPL	PayPal Holdings, Inc.	$98.07	$107.22	8.53%	$125.68
12	BABA	Alibaba Group Holding Limited	$183.03	$185.67	1.42%	$481.29
13	EA	Electronic Arts Inc.	$95.78	$94.00	-1.89%	$28.21
14	CR	salesforce.com, inc.	$163.65	$159.56	-2.56%	$123.64
15	TSLA	Tesla, Inc.	$319.88	$258.00	-23.98%	$44.93

Based on "Tech Stocks That Move The Market" by Yahoo Finance.

body Spreadsheet