Corporate & Industry Relations

Sl.No.	Contents	Assessment	Number of Hours
1. Python programming			
A	Python fundamentals	1 Quiz, 3 programming assignments	6 Hours
B	Python Data Structures		
c	Functions , Modules		
2. Numpy,Scipy			
A	Numpy libraries	1 Quiz	2 Hours
3. Pandas			
A	Pandas libraries	1 Quiz, 1 Assignment	3 Hours
4. Matplotlib& Seaborn			
A	Data Visualization Techniques	2 Assignments	3 Hours
5. Exploratory Data Analysis			
A	Descriptive Analytics	2 Quiz, 2 Assignments	6 Hours
B	Data cleaning		
C	Dimensionality reduction		
D	Feature Selection		
6. Probability Distributions			
A	Probability Mass Function	1 Quiz, 1 Assignment	3 Hours
B	Probability Distribution Function		
C	Binomial distribution		
D	t & F Distribution		
E	Sampling		
7. Hypothesis Testing			
A	One & Two tailed test	1 Quiz, 1 Assignment	4 Hours
B	Type I & Type II Error		
C	Hypothesis test with mean, variance & proportion		
D	t, Z and F tests		
8. Regression			
A	Simple Linear Regression	1 Quiz, 2 Assignment	6 Hours
B	Multiple Linear Regression		
C	Model Diagnostics		
9. Classification			
A	Logistic Regression	1 Quiz, 2 Assignments	7 Hours
B	Decision Trees		
C	Random Forest		
10 Clustering			
A	KNN	1 Quiz, 2 Assignments	5 Hours
B	Hierarchical clustering		
C	Applications		
CAPSTONE PROJECT			

CATERPILLAR®

TOSHIBA
Leading Innovation

AMRITA
VISHWA VIDYAPEETHAM

dataphi

Olam

datateam
Business Media

ABB

Rakuten

Continental

LITMUS7
RetailSingularity Hub

AVAYA

Broadridge

What Are Popular Skills for Software Engineers?

Avg. Salary	Popularity
Java $85,348	18,033 responses
JavaScript $85,351	17,527 responses
SQL $82,008	13,860 responses
Python $89,419	12,256 responses
C# Programming Language $78,866	11,438 responses

What Are Popular Skills for Data Scientists?

Avg. Salary	Popularity
Machine Learning $99,074	5,818 responses
Python $97,504	5,625 responses
Data Analysis $92,226	3,685 responses
Statistical Analysis $95,603	2,642 responses
R $89,965	2,637 responses

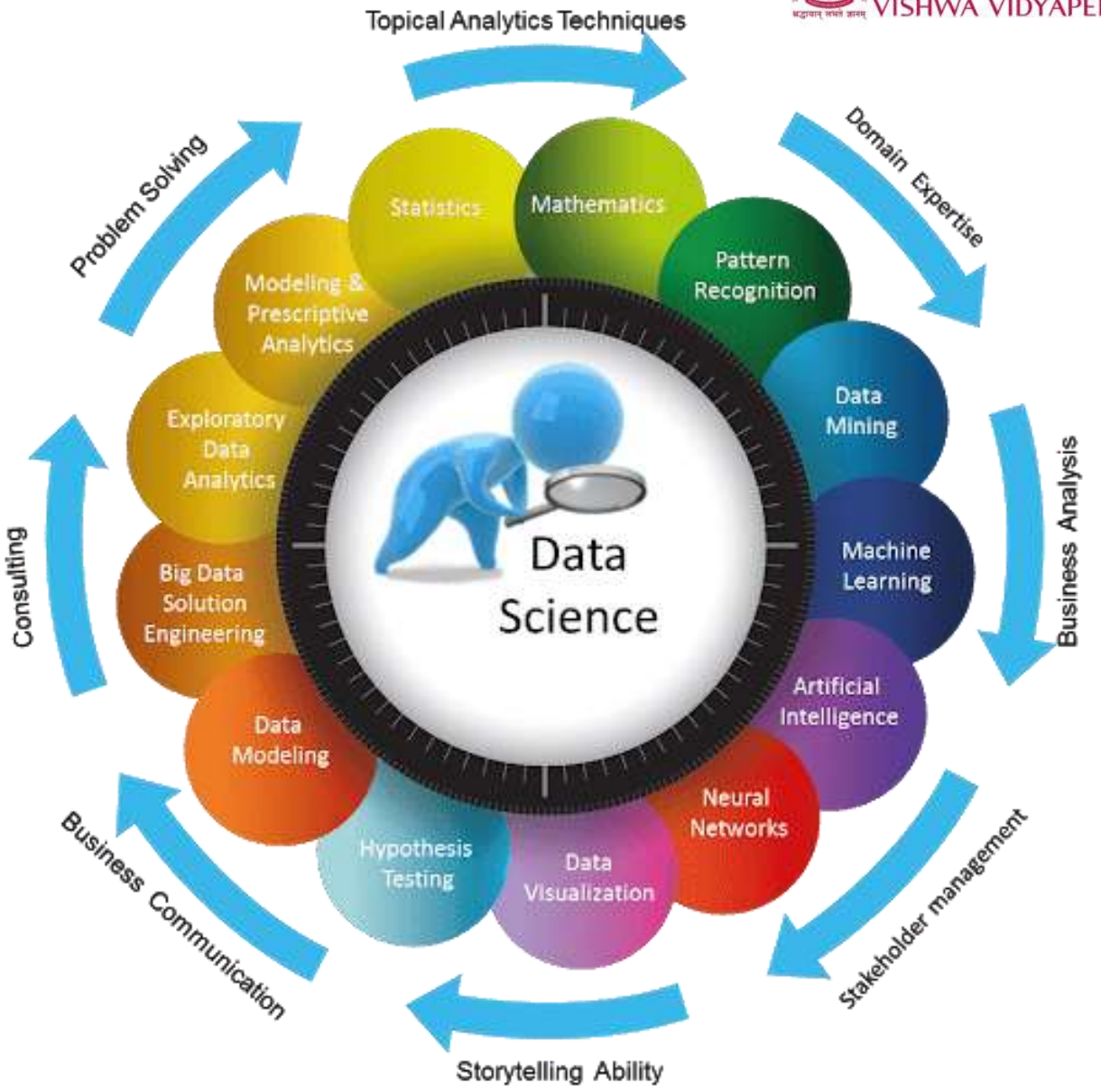
Edu Tech - Competitors

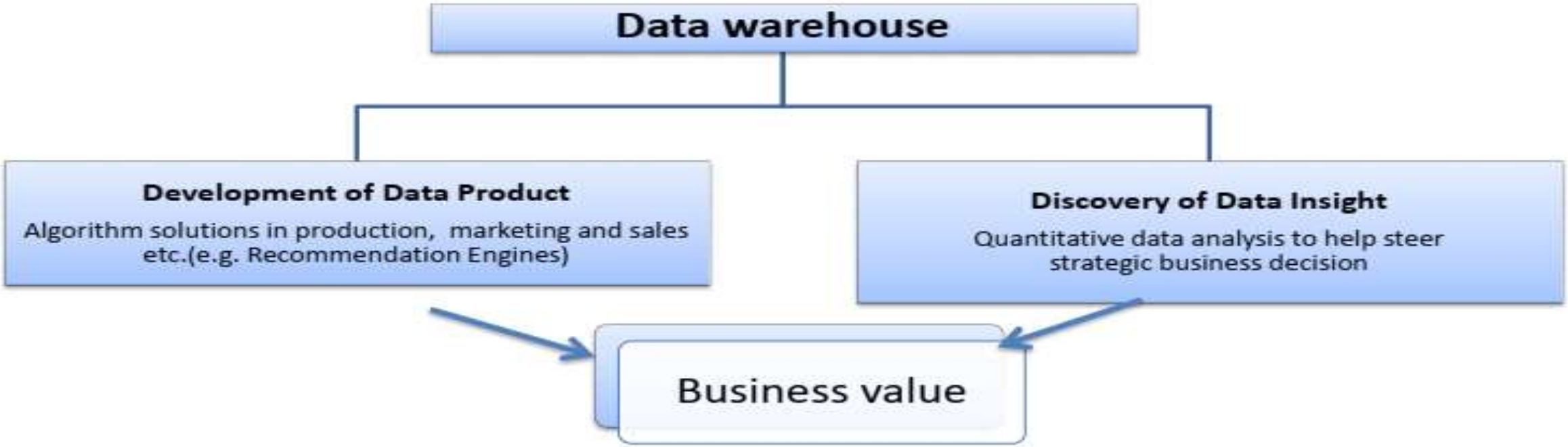
- Coursera : 39 to 100 USD
- Udemy : Rs. 6500
- Upgrad : Rs.2,50,000
- Udacity : Monthly access : Rs. 23,000
- Simplilearn : Rs. 4166 / Month

- & many more..

Data Science

Data is the New Oil for Profit





RANI CHENNAMMA(16589)

KSR BENGALURU (SBC) ➔ HUBBALLI JN (UBL)
AC 3 Tier (3A)

Current availability as on 3-1-2020: GNWL31/WL11

Probability of Confirmation: 89% *

Last Year Confirmation Trends for Same Period

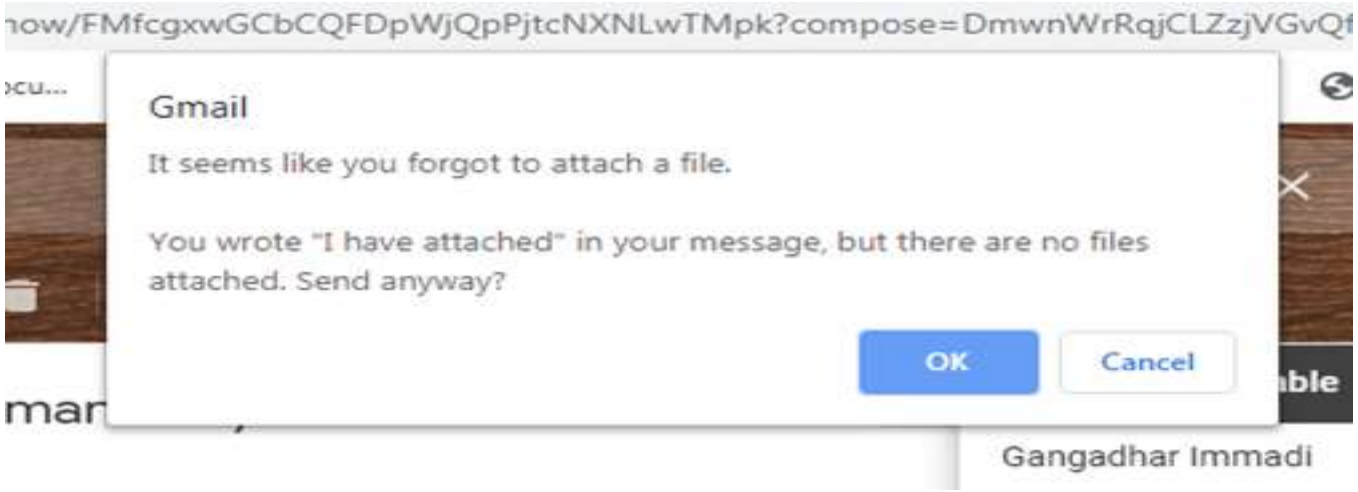
Journey Date	Booking Confirmed Upto	Journey Date	Booking Confirmed Upto
27 Dec 2018	WL/80	28 Dec 2018	WL/104
29 Dec 2018	WL/50	30 Dec 2018	WL/76
31 Dec 2018	WL/16	01 Jan 2019	WL/36

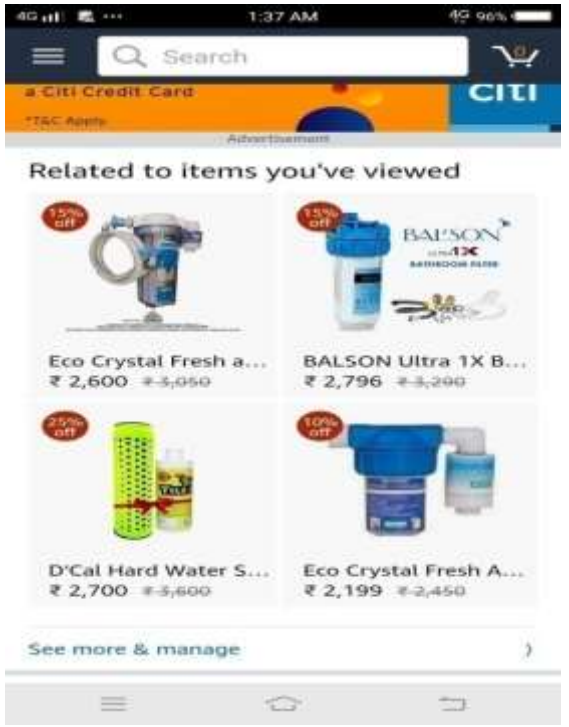
amazon pay

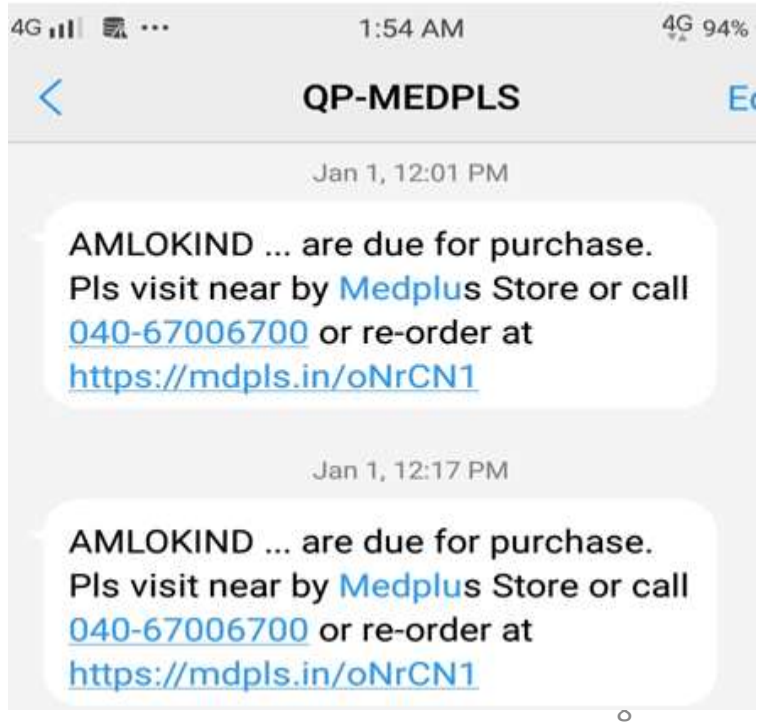
Dear Customer,

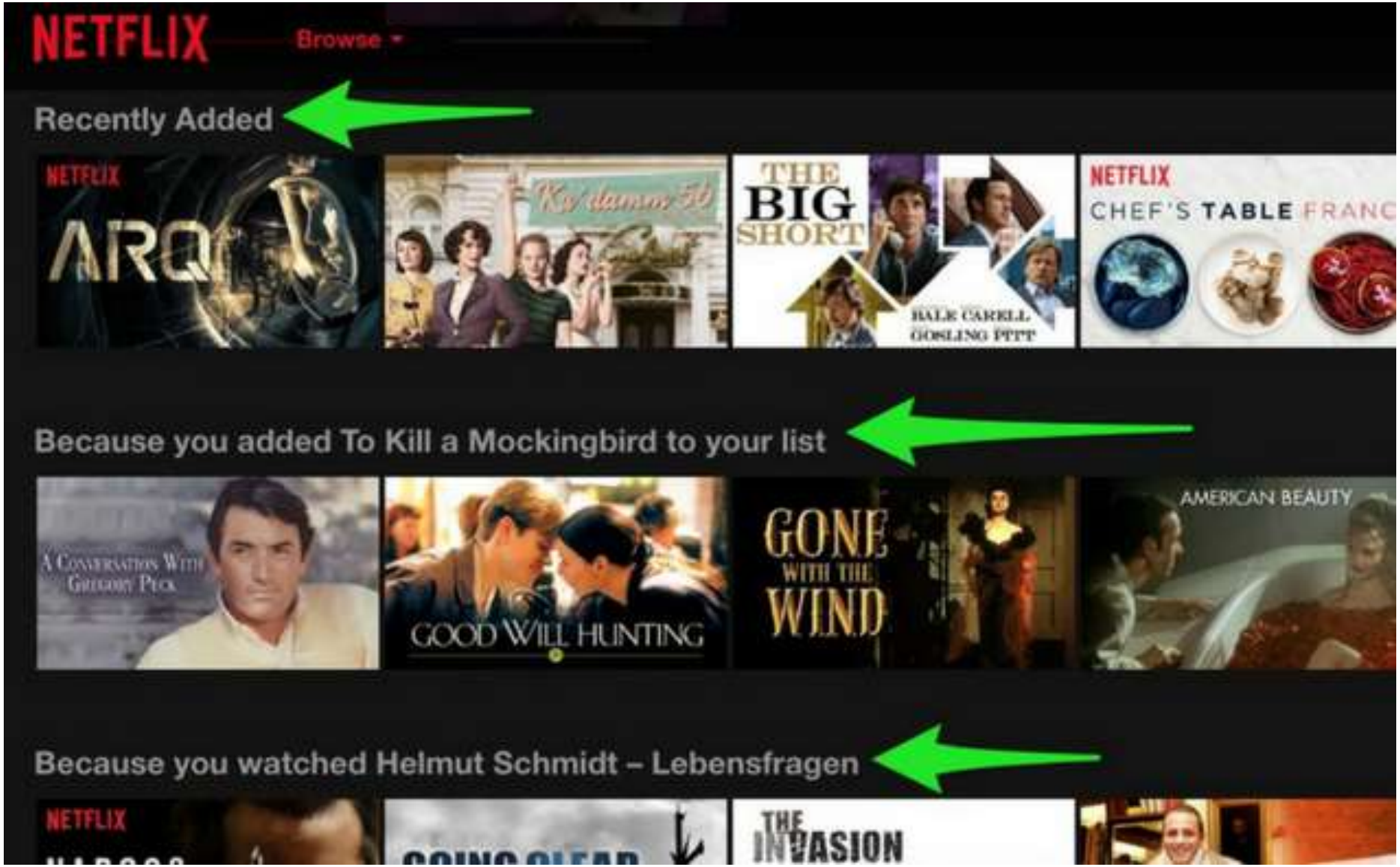
Your postpaid bill of Rs.241.90 for 9986789040 is due on 09 January 2020. Please ignore if already paid.

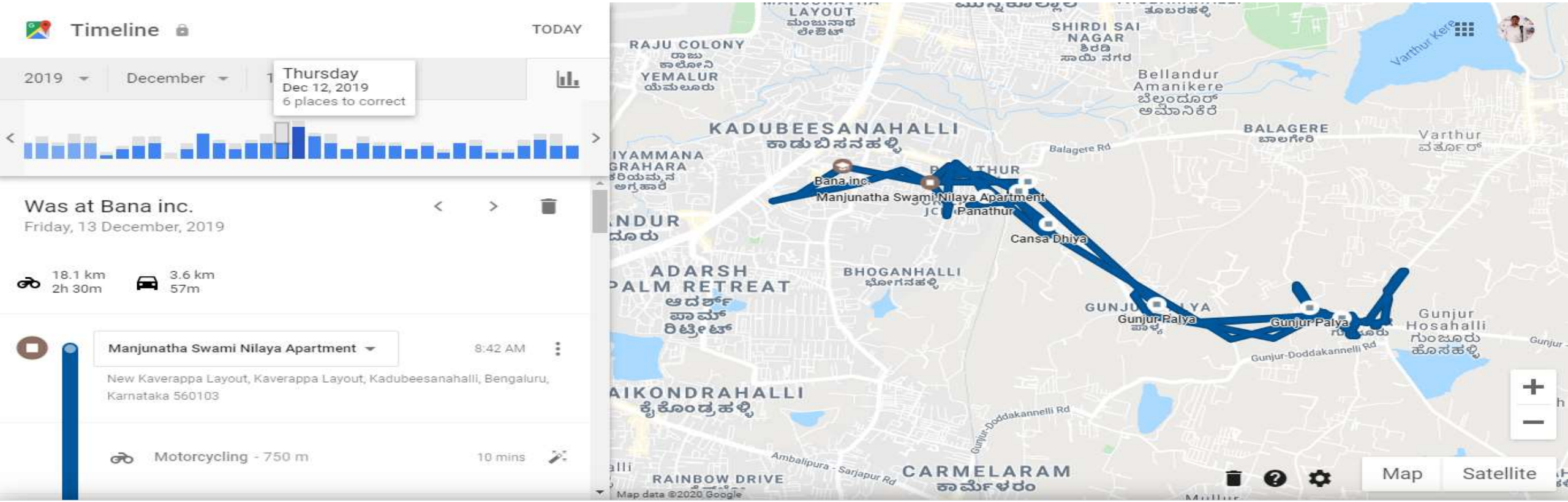
ZOMATO
Dear Harshit!
We hope you woke up late, and feel well-rested. And if you are looking to order a hearty breakfast, we are here


Gmail
It seems like you forgot to attach a file.
You wrote "I have attached" in your message, but there are no files attached. Send anyway?
OK
Cancel
Gangadhar Immadi


Search
Related to items you've viewed
Eco Crystal Fresh a...
₹ 2,600
BALSON Ultra 1X B...
₹ 2,796
D'Cal Hard Water S...
₹ 2,700
Eco Crystal Fresh A...
₹ 2,199
See more & manage


1:54 AM
94%
QP-MEDPLS
Jan 1, 12:01 PM
AMLOKIND ... are due for purchase. Pls visit near by Medplus Store or call 040-67006700 or re-order at https://mdpls.in/oNrCN1
Jan 1, 12:17 PM
AMLOKIND ... are due for purchase. Pls visit near by Medplus Store or call 040-67006700 or re-order at https://mdpls.in/oNrCN1

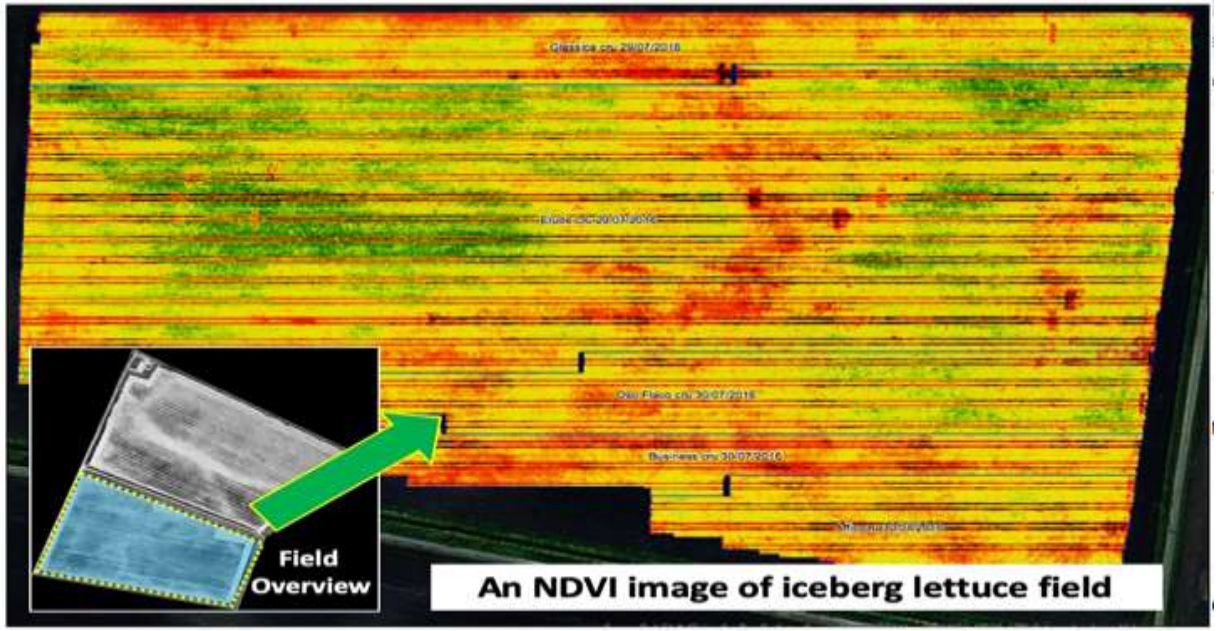

NETFLIX
Browse
Recently Added
NETFLIX
ARQ
THE BIG SHORT
BALE CARELL GOSLING PITT
NETFLIX
CHEF'S TABLE FRANC
Because you added To Kill a Mockingbird to your list
A Conversation With Gregory Peck
GOOD WILL HUNTING
GONE WITH THE WIND
AMERICAN BEAUTY
Because you watched Helmut Schmidt – Lebensfragen
NETFLIX
THE INVASION


Timeline
TODAY
2019
December
Thursday
Dec 12, 2019
6 places to correct
Was at Bana inc.
Friday, 13 December, 2019
18.1 km
2h 30m
3.6 km
57m
Manjunatha Swami Nilaya Apartment
8:42 AM
New Kaverappa Layout, Kaverappa Layout, Kadubeesanahalli, Bengaluru, Karnataka 560103
Motorcycling - 750 m
10 mins
KADUBEESANAHALLI
Bana inc
Manjunatha Swami Nilaya Apartment
Panathur
Cansa Dhiya
Balagere Rd
BALAGERE
Varthur
Bellandur
Amanikere
SHIRDI SAI NAGAR
RAJU COLONY
YEMALUR
ADARSH PALM RETREAT
BHOGANHALLI
Gunjur Palya
Gunjur Hosahalli
Gunjur-Doddakannelli Rd
CARMELARAM
RAINBOW DRIVE
Ambalipura - Sarjapur Rd
Map data ©2020 Google
Map
Satellite

Light aircraft

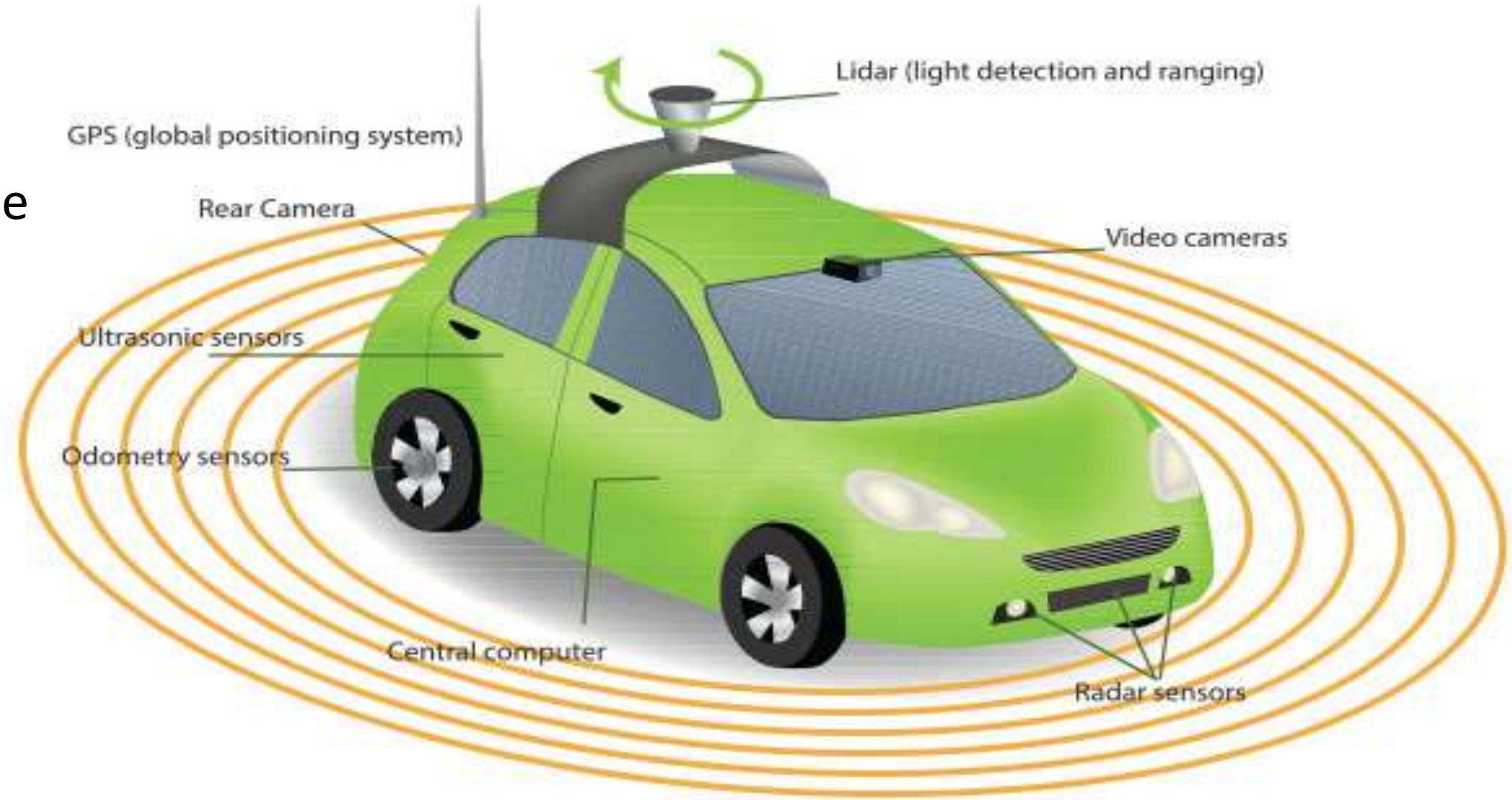
Plantation region

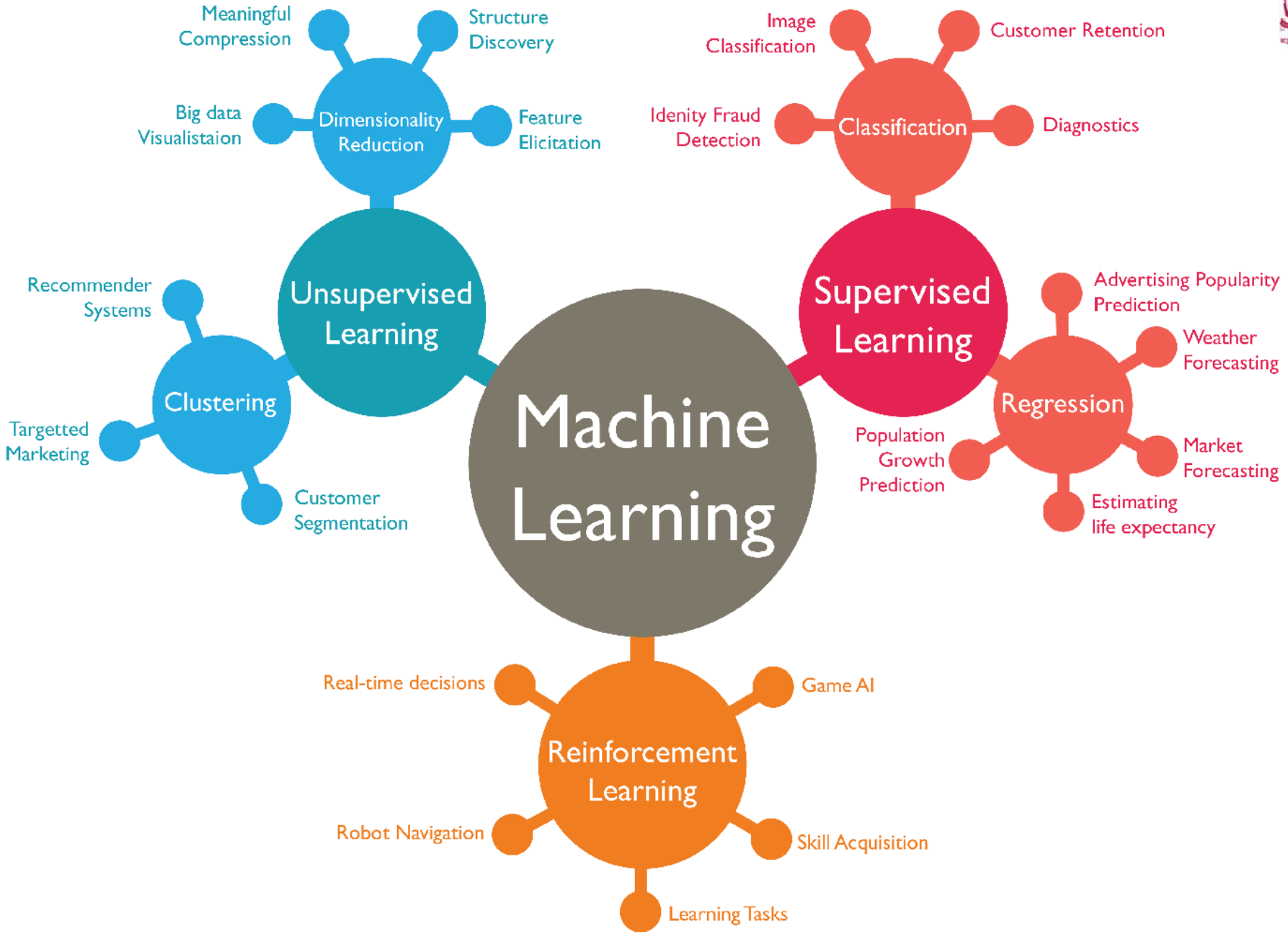
Field layout


Field
Overview
An NDVI image of iceberg lettuce field

Machine Learning

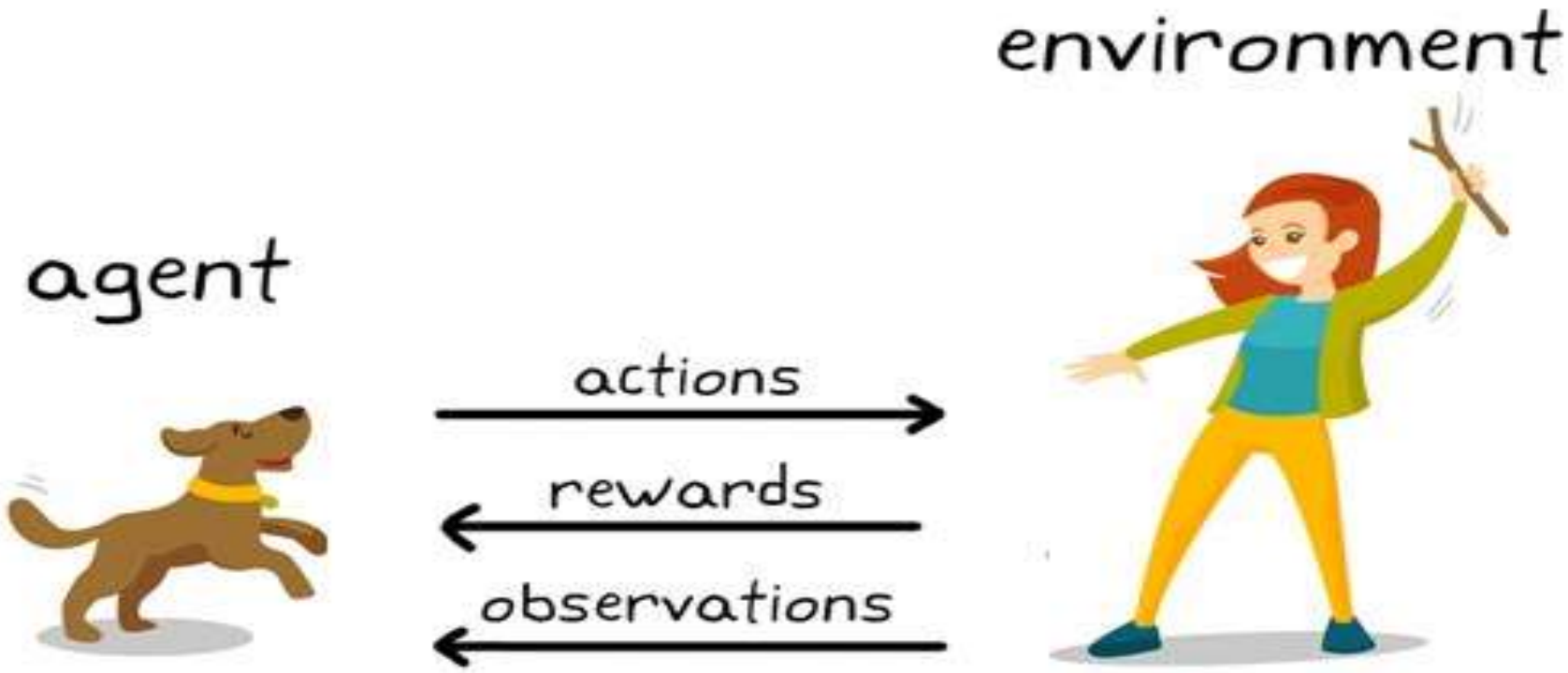
- Task
- Experience
- Performance



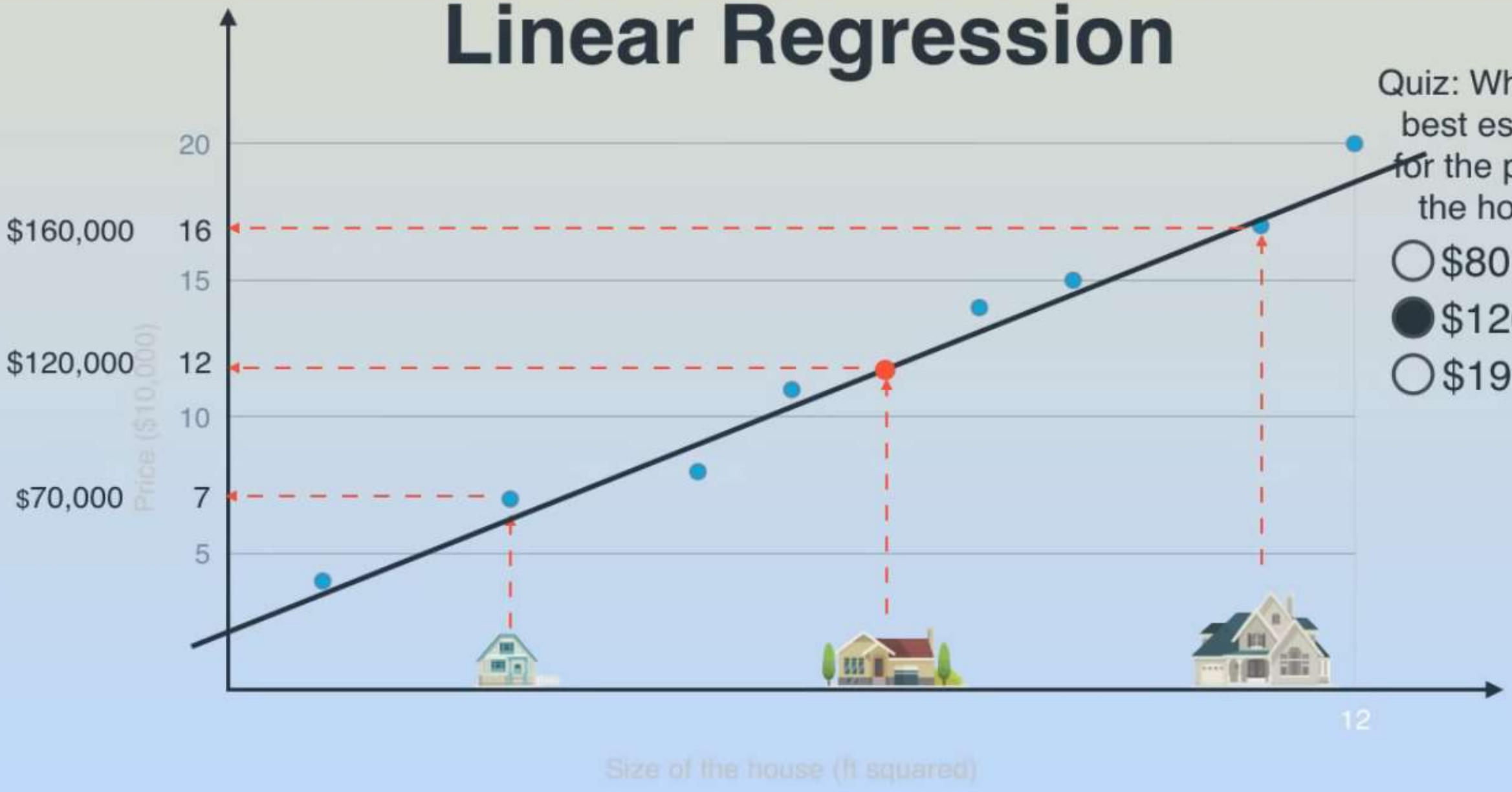

Machine Learning
Unsupervised Learning
Dimensionality Reduction
Meaningful Compression
Structure Discovery
Big data Visualistaion
Feature Elicitation
Clustering
Recommender Systems
Targetted Marketing
Customer Segmentation
Supervised Learning
Classification
Image Classification
Customer Retention
Idenity Fraud Detection
Diagnostics
Regression
Advertising Popularity Prediction
Weather Forecasting
Population Growth Prediction
Market Forecasting
Estimating life expectancy
Reinforcement Learning
Real-time decisions
Game AI
Robot Navigation
Skill Acquisition
Learning Tasks

Picture	Result
	Daddy
	Mommy

MakeAGIF.com


environment
agent
actions
rewards
observations

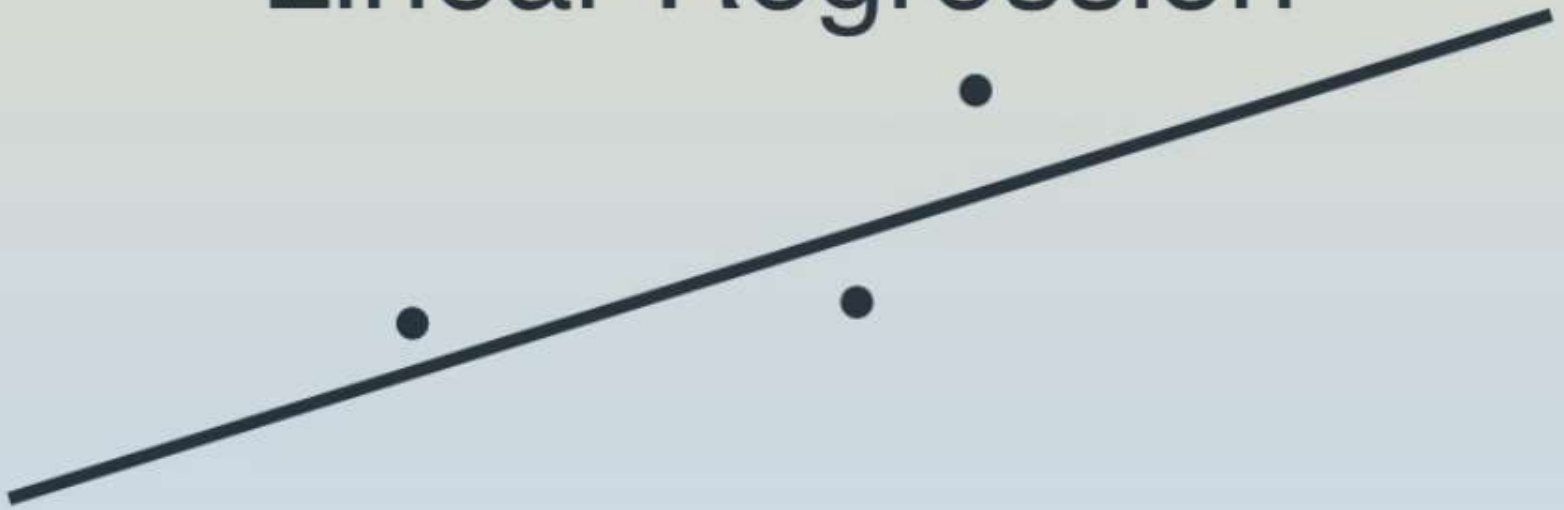
Linear Regression



Quiz: What's the best estimate for the price of the house?

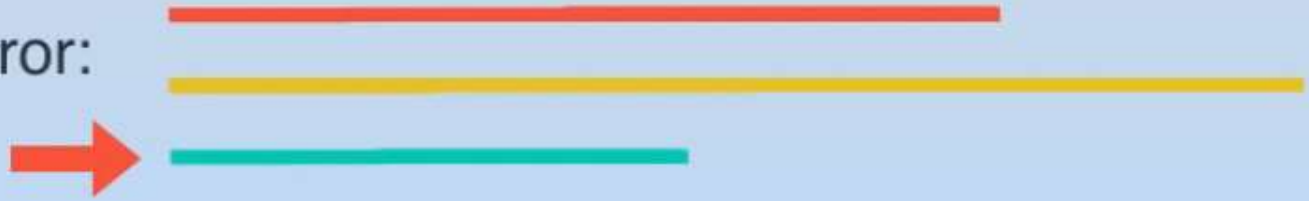
- ○ $80,000
- ● $120,000
- ○ $190,000

Linear Regression



Gradient desce

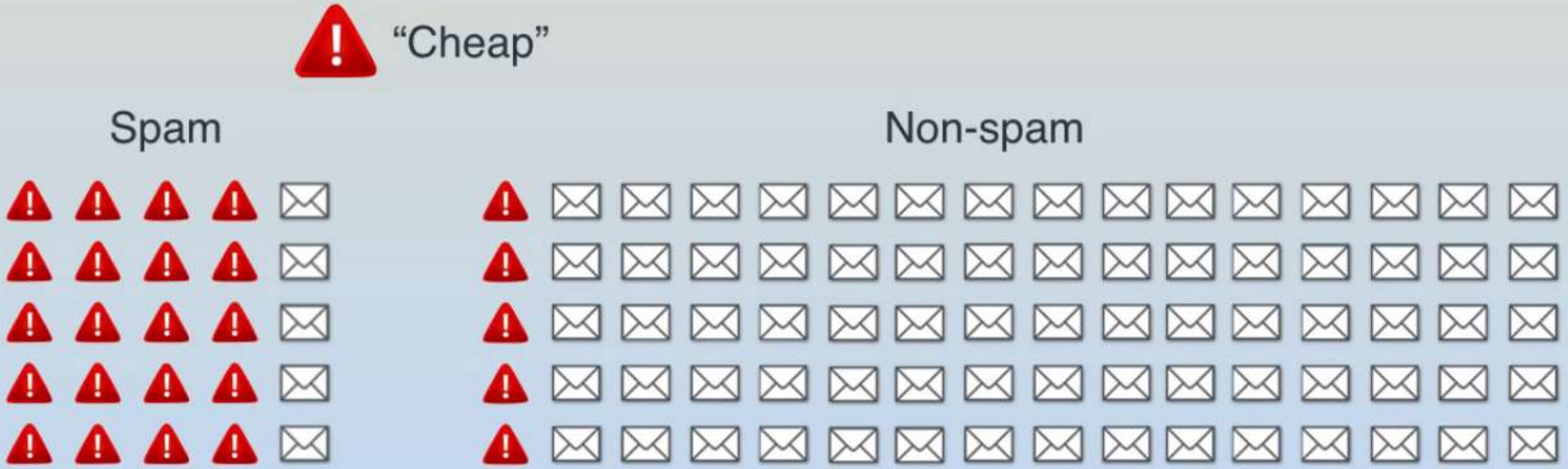
Error:



Gradient descent

Linear and Polynomial Regression

Detecting Spam e-mails



Detecting Spam e-mails

"Cheap"

Quiz: If an e-mail contains the word "cheap", what is the probability of it being spam?

- ○ 40%
- ○ 60%
- ● 80%

Conclusion:

If the e-mail contains the word "cheap", The probability of it being spam is 80%

Detecting Spam e-mails

"Cheap" ⟶ 80%

Spelling mistake → 70%

Missing title ⟶ 95%

etc…

Quiz: If an e-mail contains the word "cheap", what is the probability of it being spam?

- ○ 40%
- ○ 60%
- ● 80%

Conclusion:

If the e-mail contains the word "cheap", The probability of it being spam is 80%

Recommending Apps

Gender	Age	App
F	15	
F	25	
M	32	
F	40	
M	12	
M	14	

Quiz: Between Gender and Age, which one seems more decisive for predicting what app will the users download?

- ○ Gender
- ○ Age

Recommending Apps

Gender	Age	App
F	15	
F	25	
M	32	
F	40	
M	12	
M	14	

Quiz: Between Gender and Age, which one seems more decisive for predicting what app will the users download?

- ○ Gender
- ○ Age

Recommending Apps

Gender	Age	App
F	15	
F	25	
M	32	
F	40	
M	12	
M	14	

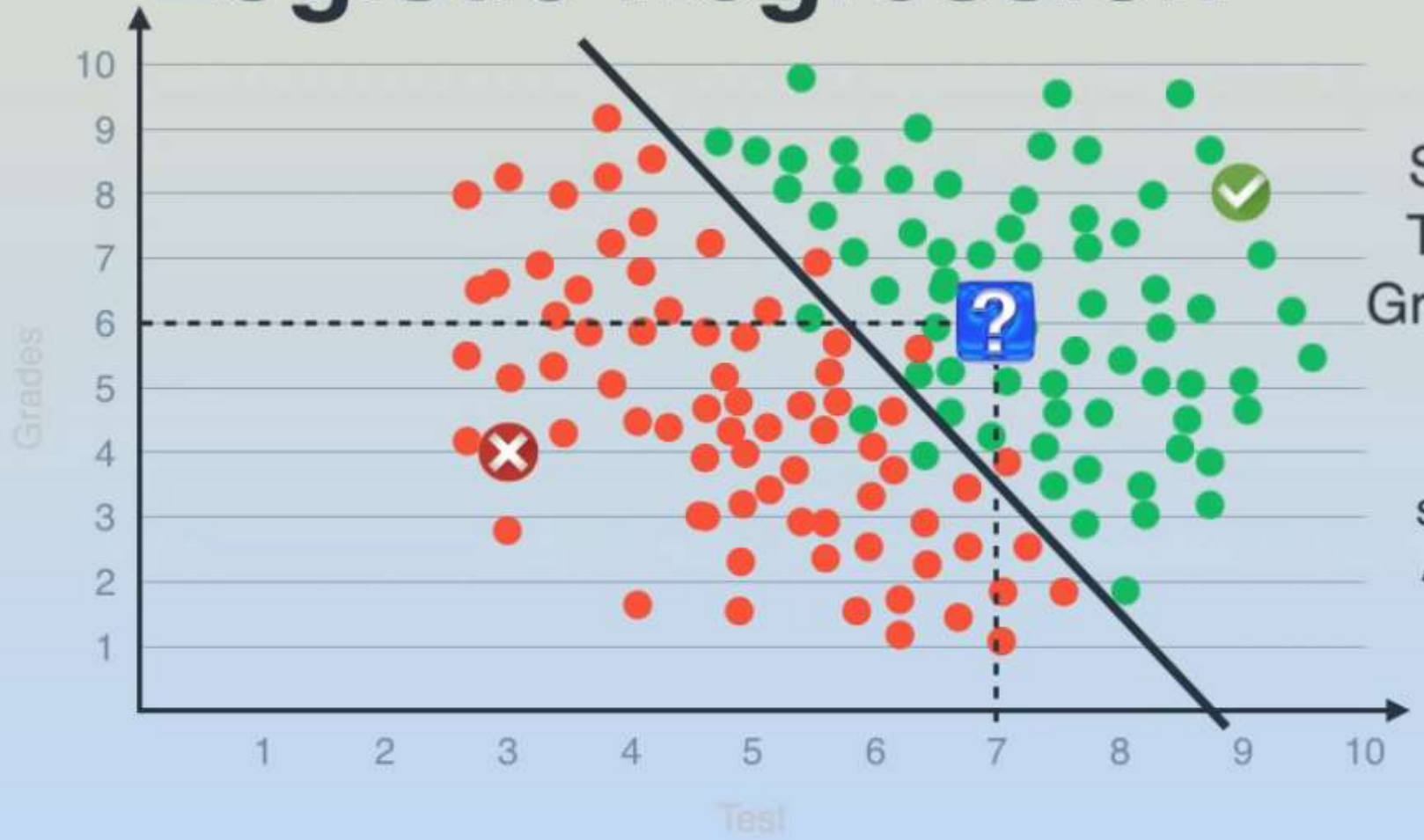
Recommending Apps

Gender	Age	App
F	25	
M	32	
F	40	

Decision Tree

Gender	Age	App
F	15	
F	25	
M	32	
F	40	
M	12	
M	14	

Logistic Regression

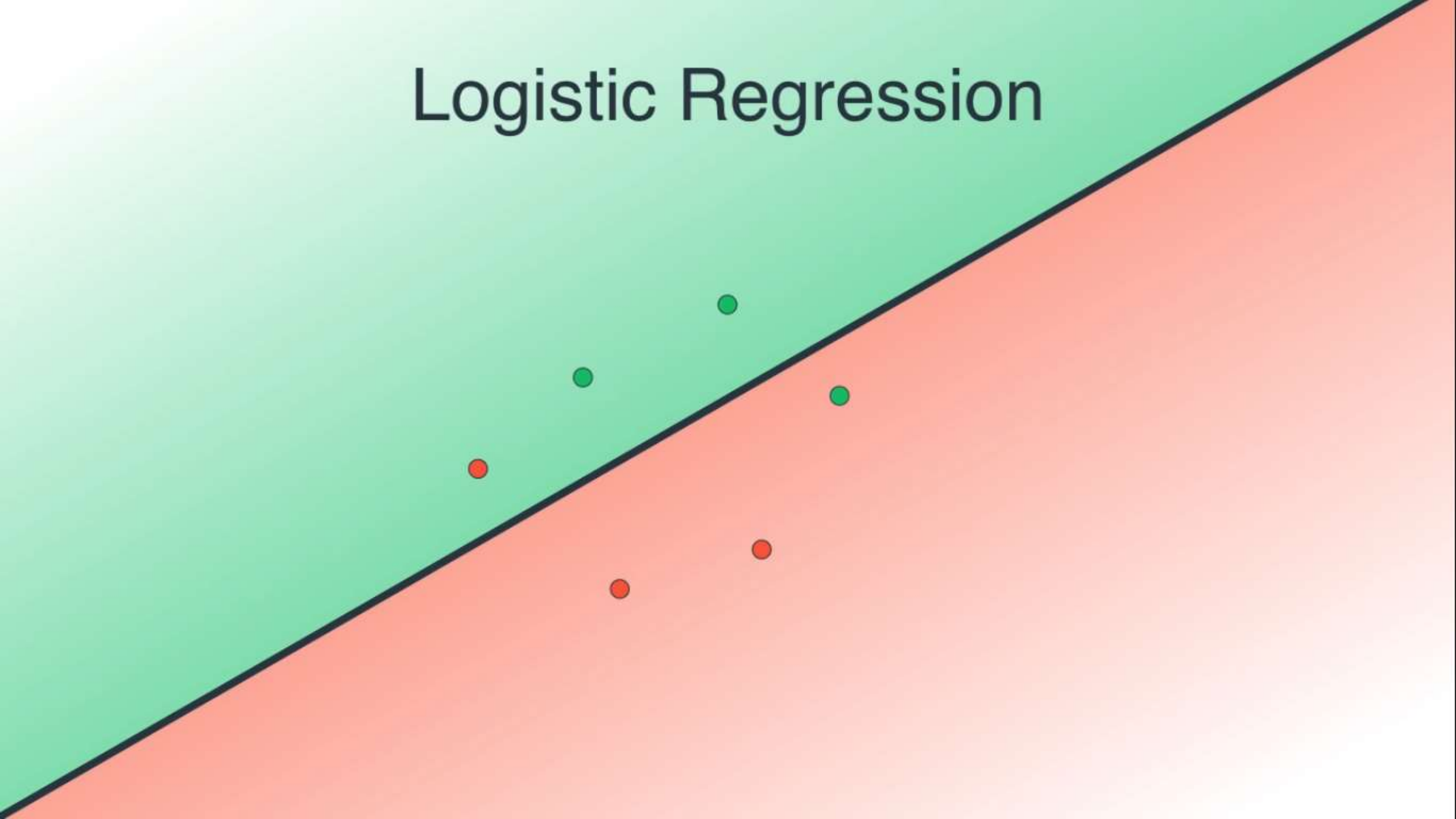


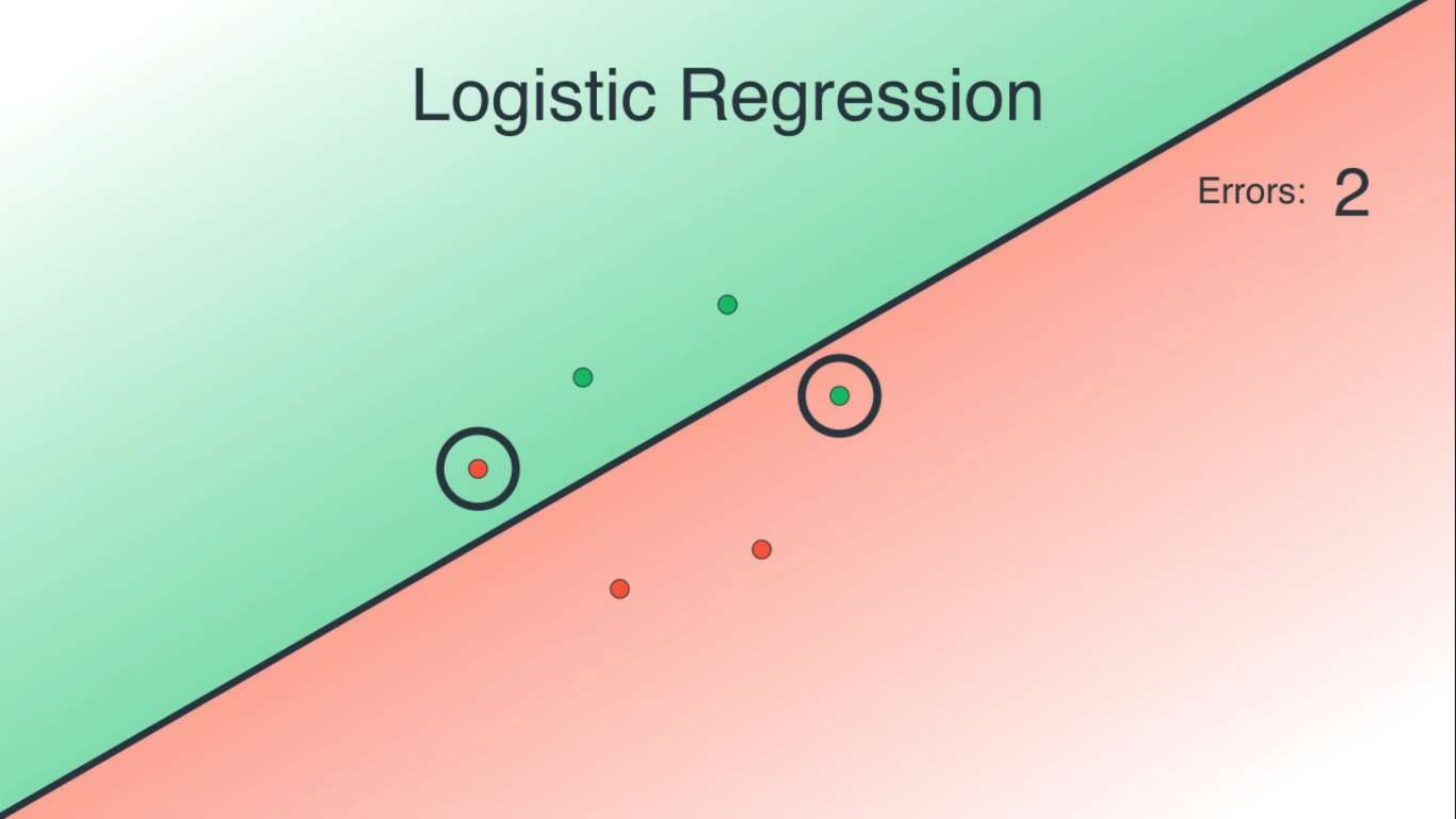
Student 3
Test: 7/10
Grades: 6/10

Quiz:
Does the student get Accepted?

● Yes

Logistic Regression




Logistic Regression
Errors: 2

Logistic Regression

Errors: 1

Gradient descent

Logistic Regression

Errors: 0

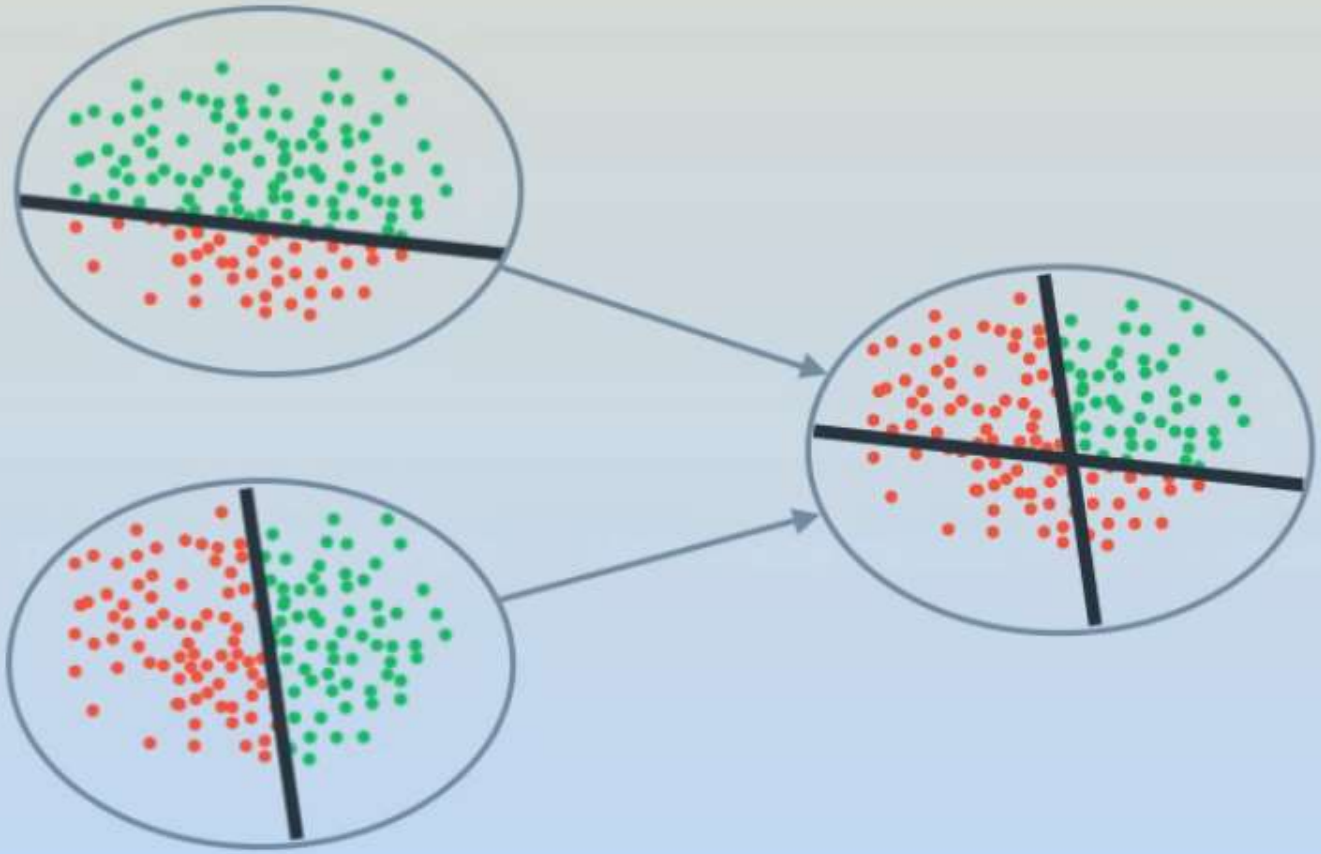
Gradient descent

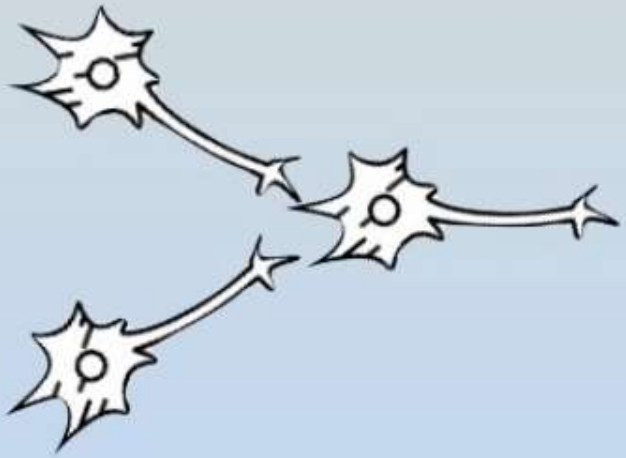
Acceptance at a University

Acceptance at a University

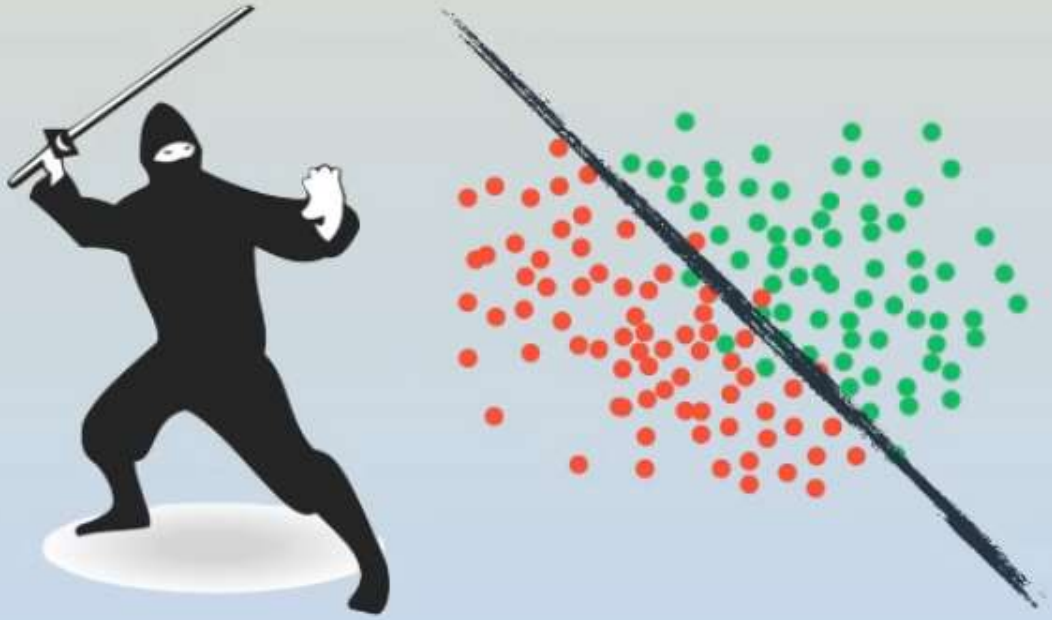
Gradient descent

Neural Network

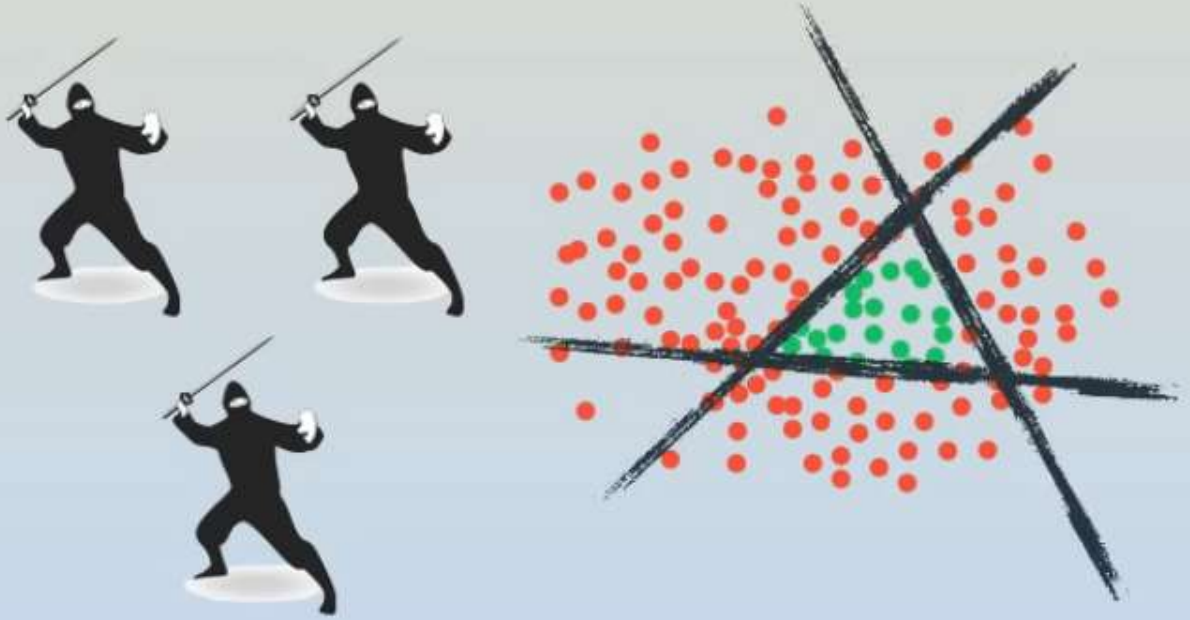




Logistic Regression & Neural Networks

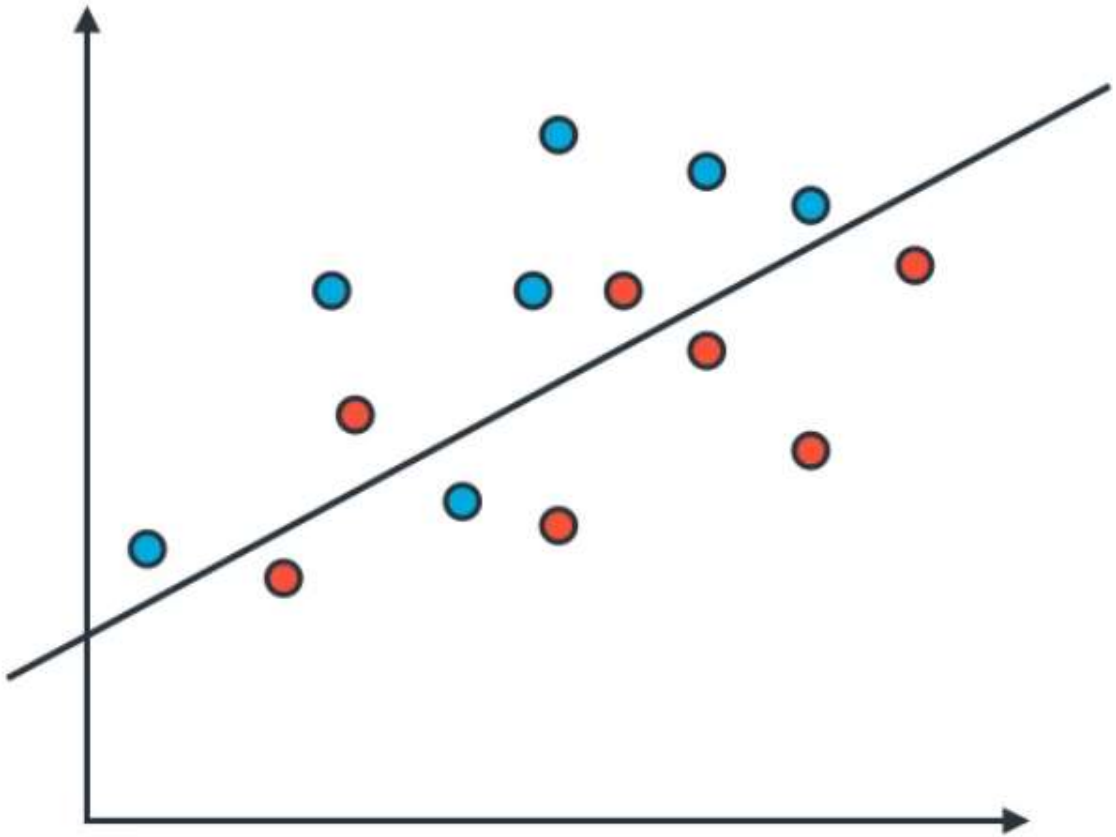


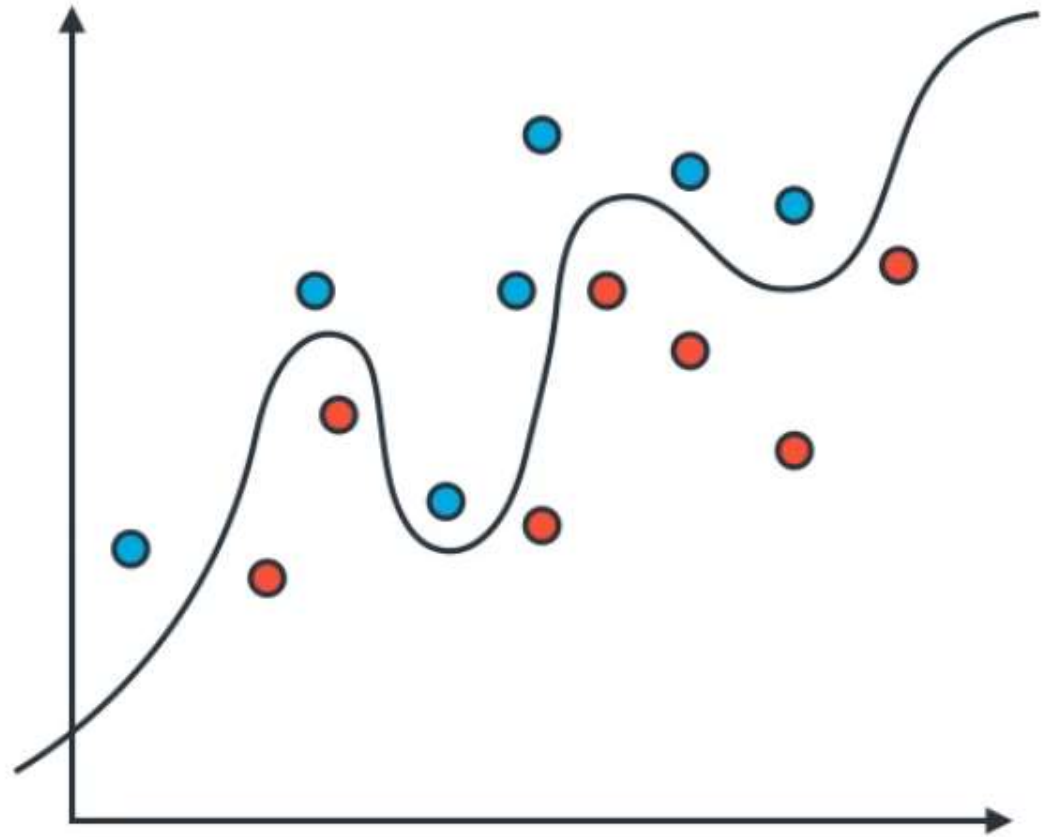
Logistic Regression



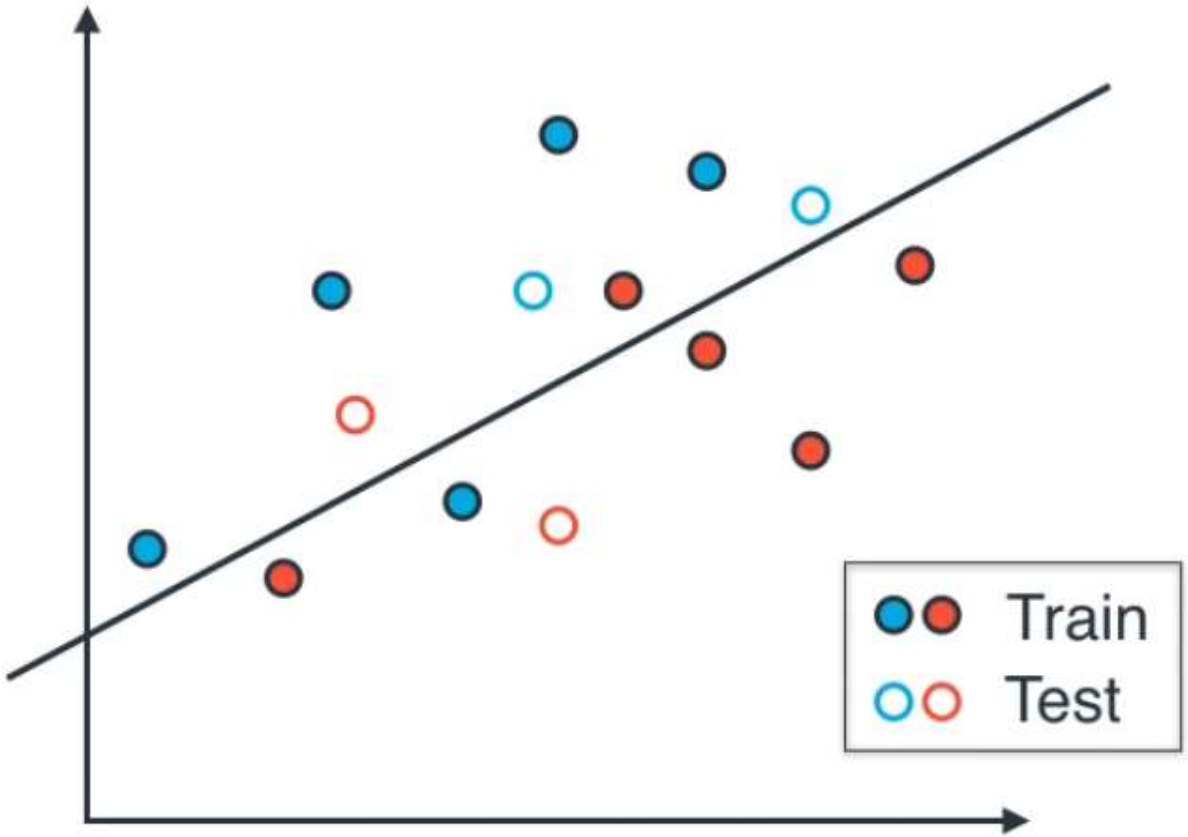
Neural Network

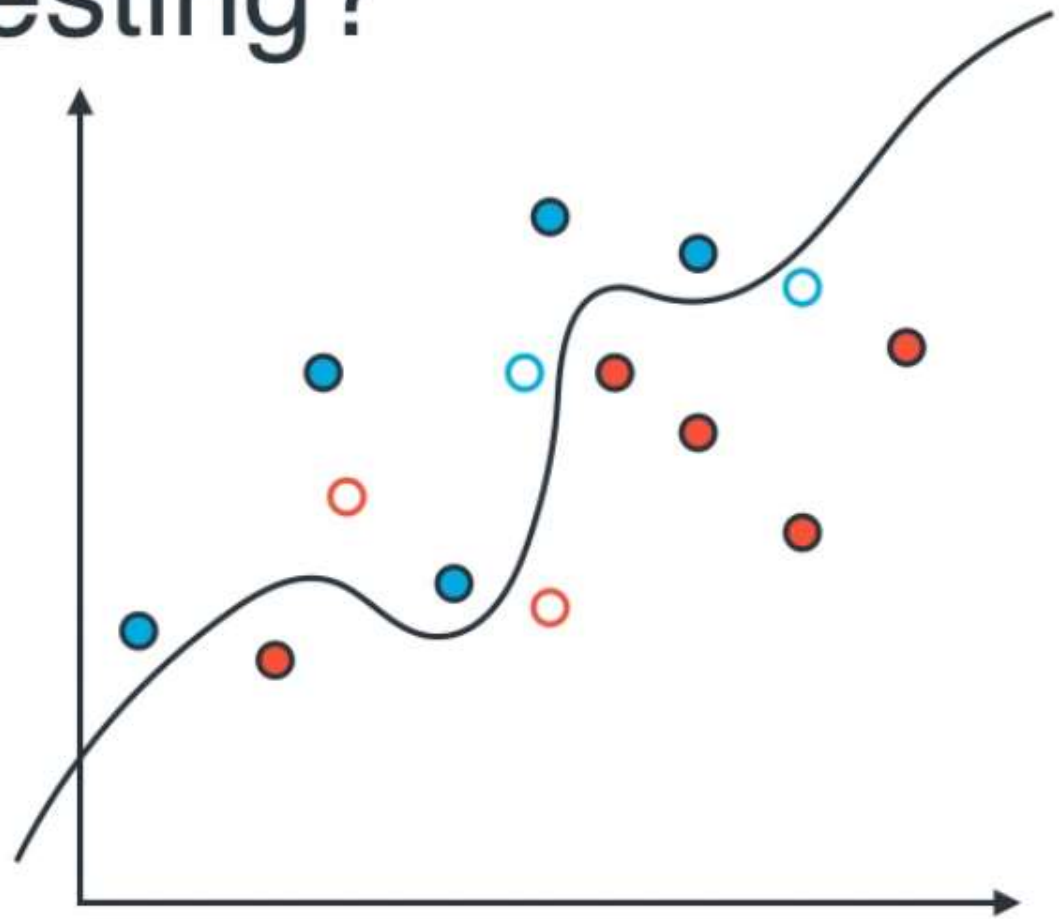
Which model is better



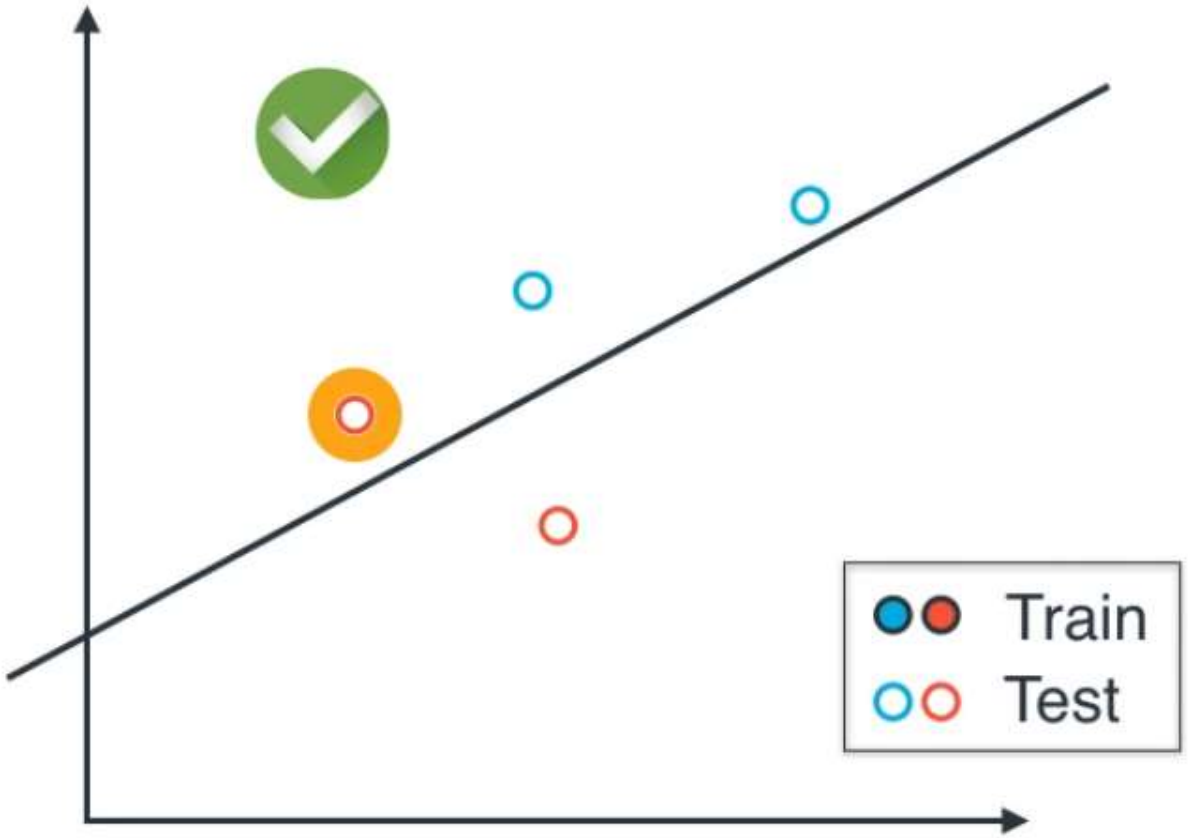


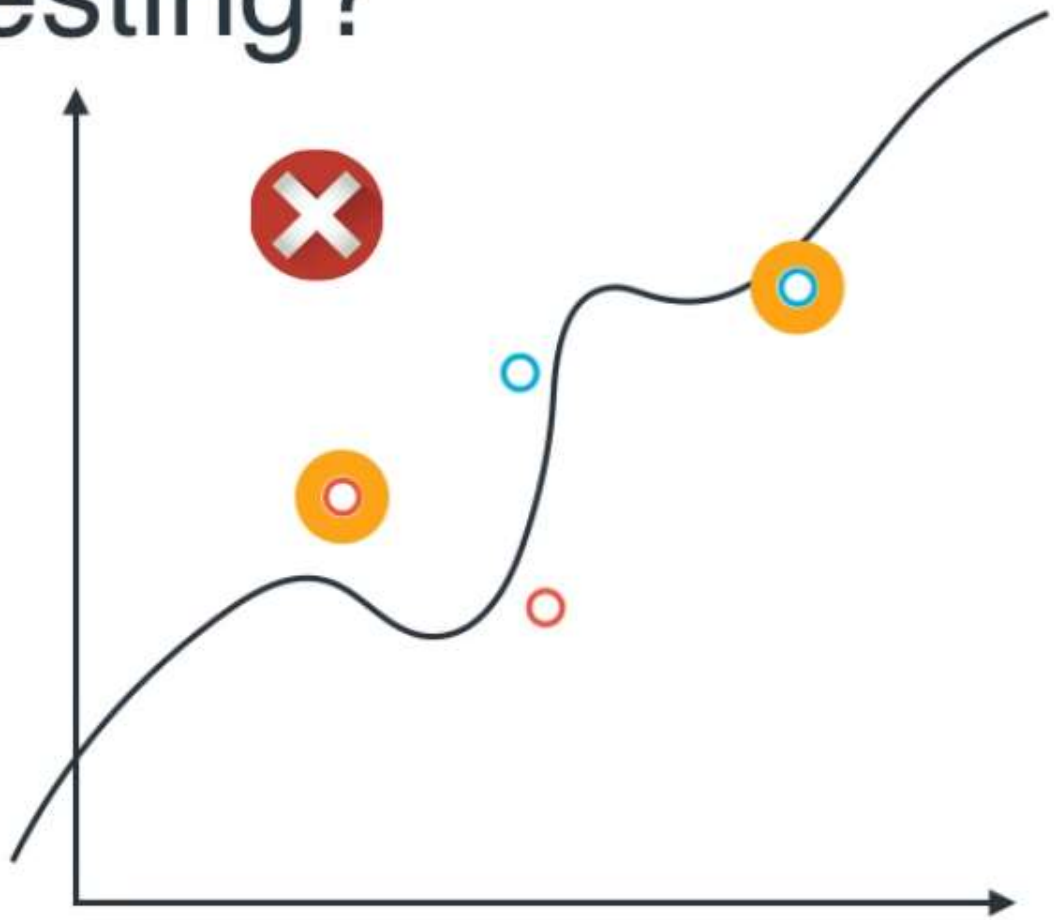
Why Testing?





Why Testing?





Golden Rule # 1

Golden Rule # 2

Golden Rule # 3

Thank you