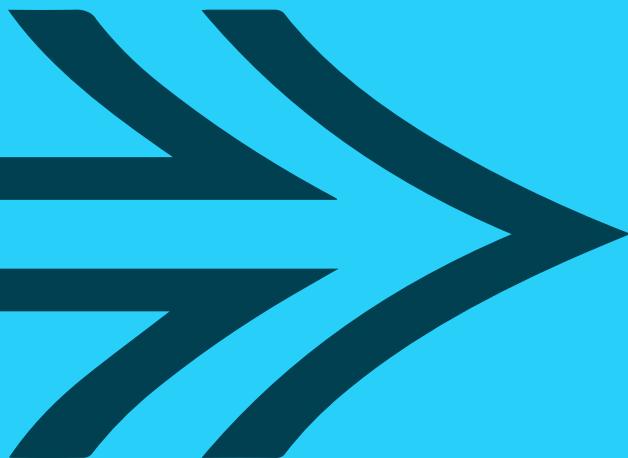
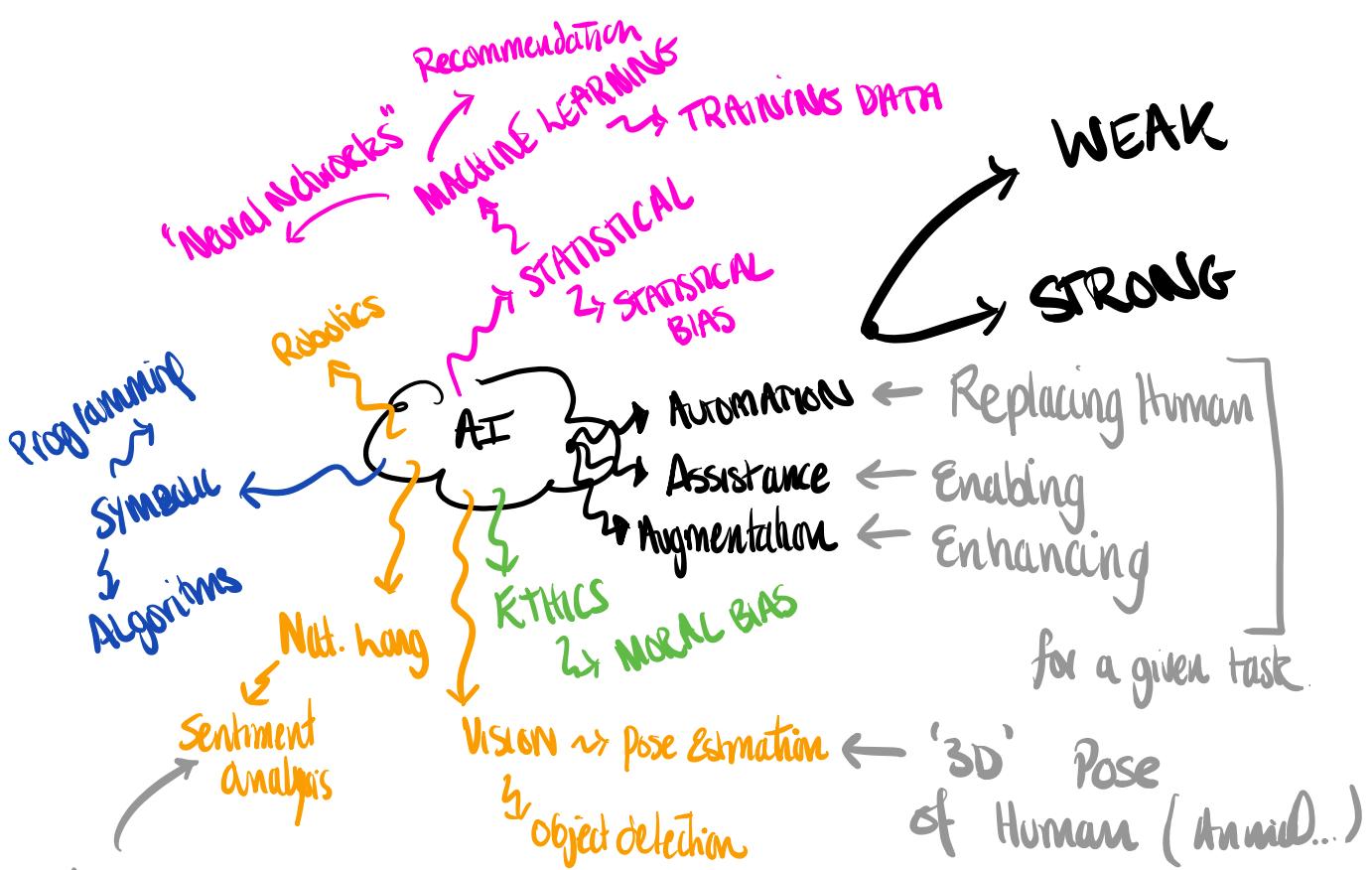


QA

INTRO TO AI AND ML



QA



Assigning +ve

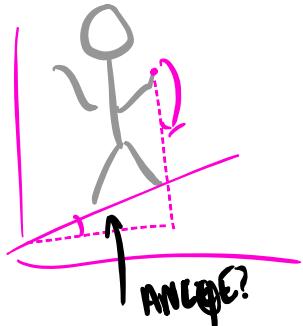
-ve 'value' to "feeling" of some text

E.g.

I hate bread!

-ve

Emotional 'Valence'



QA

DOES NOT EXIST

AI def. an artificial
systems which behaves
as-if 'Human' on some

STRONG AI

WEAK AI

problem

OPEN

↳ "NOT NARROW"

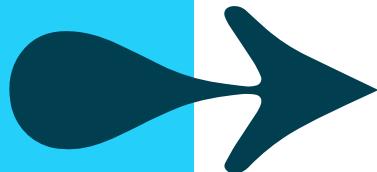
which
requires intelligence
in humans.

NARROW

- SUCCESS WELL-DEF'D.
- RELIABLE METHODS
 - DATA COLLECTION
- RELEVANCE WELL-DEFINED



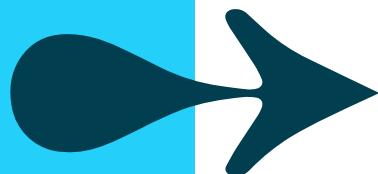
ALL COND'
MET!



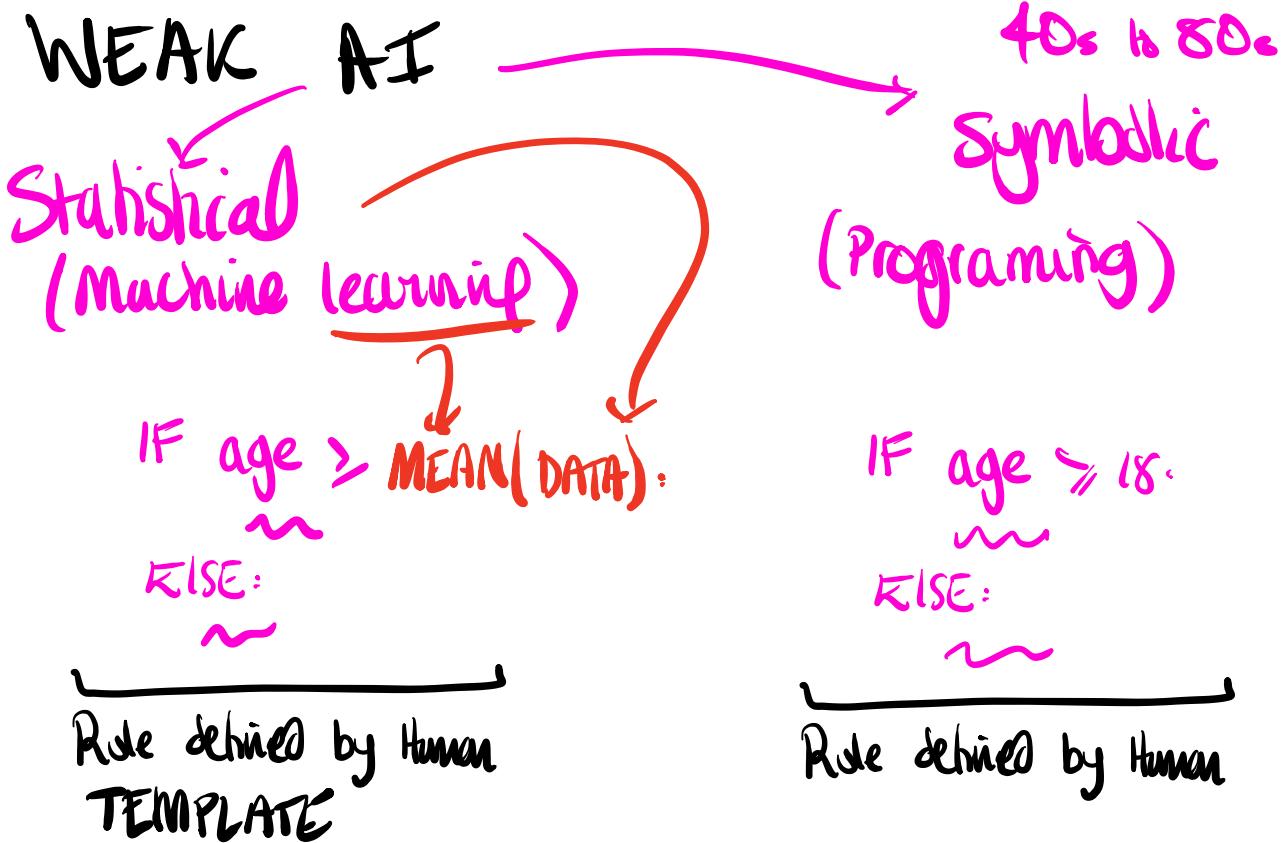


WEAK vs. STRONG - EXAMPLES

- "AI doesn't exist"
- 2, mostly a marketing term
- 2, all machine systems
are incredibly limited



QA



- WRITE TEMPLATE
- COLLECT RELEVANT DATA

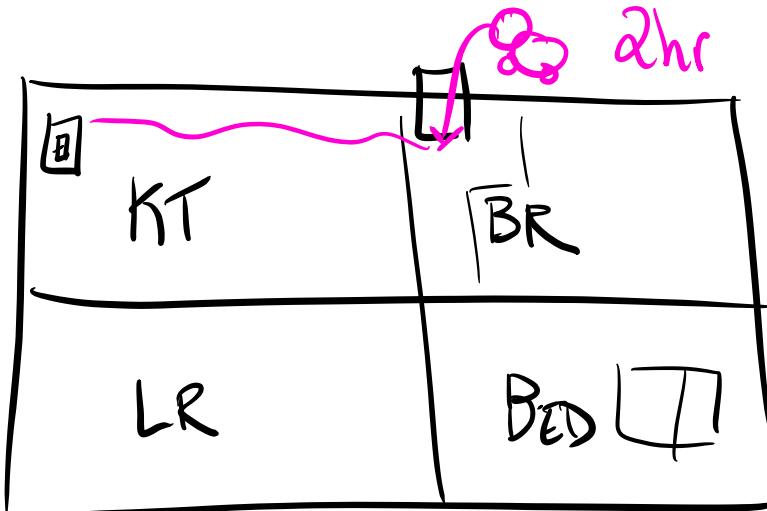
SUCCESS WELL-DEFINED.

Humans.

STRONG AI ("Open Problem")

EXAMPLE

- No specific problem
- No "success"
- No "relevance"



→ Expert - lights
as of things
Over
Find lost keys



QA

How? ⚡ Child's body is present
in Env.



Plays w. Env.

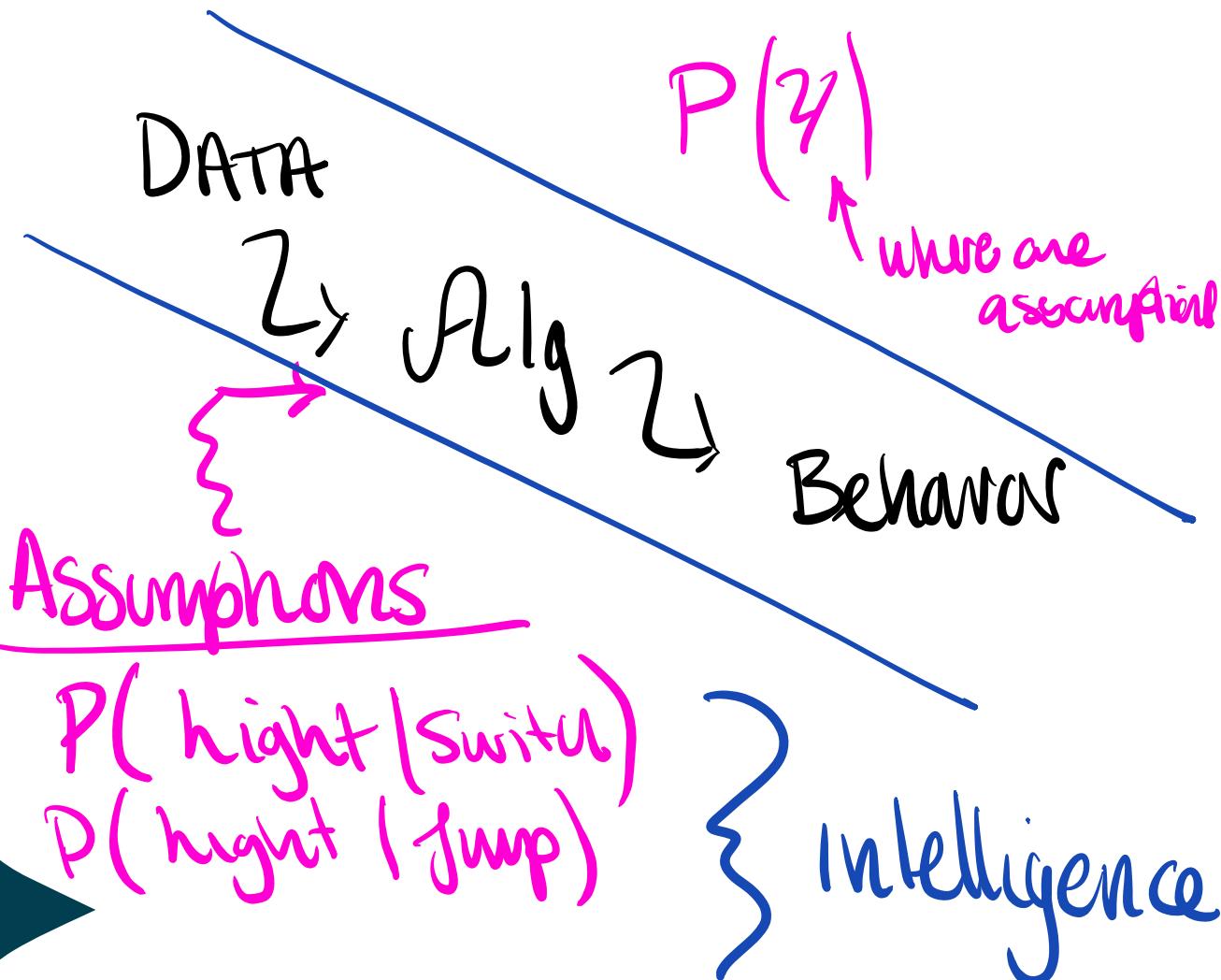
Env. acts on body

⚡ Curiosity, boredom ...
↳

⚡ 'IMAGINING' - Do I control
the lights?
↳ think of different possibilities ...



Machine Learning



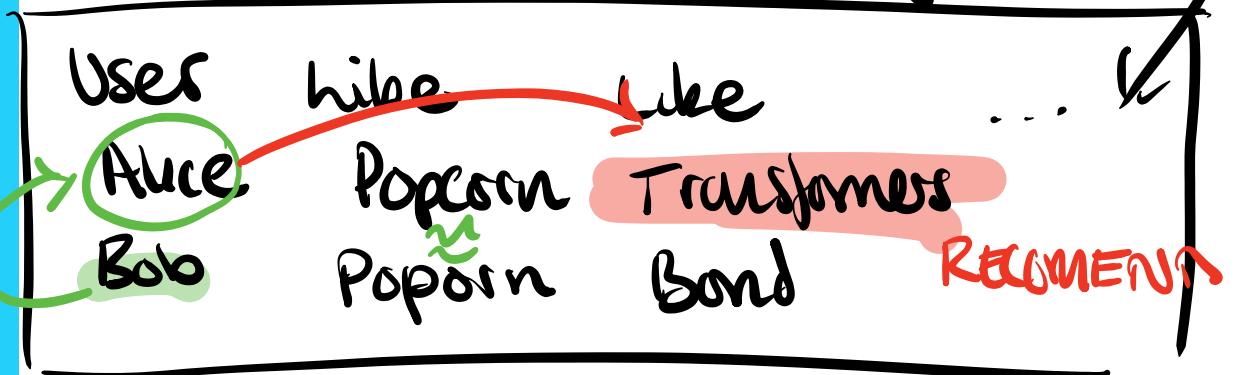
QA

Rg. Recommendation

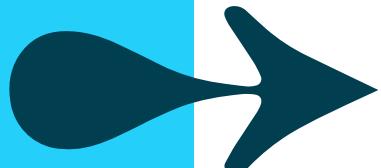
Human Experimenters

↳ find similar users

↳ find what they like ~~DATA~~



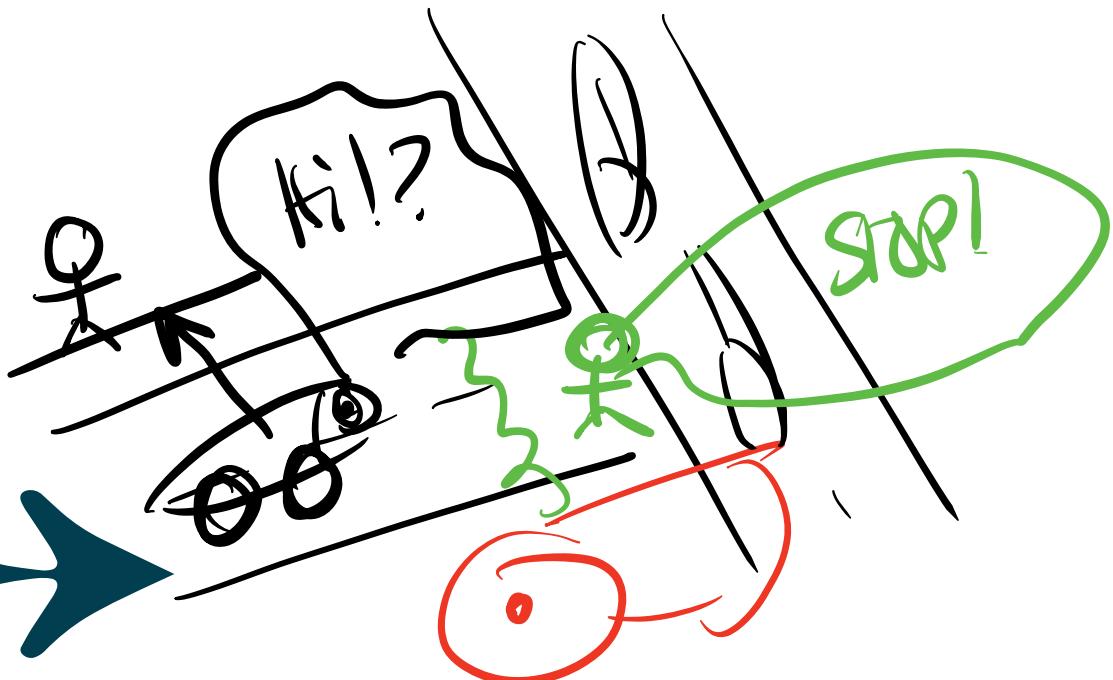
↳ A
↳ "Transformers to Bob"



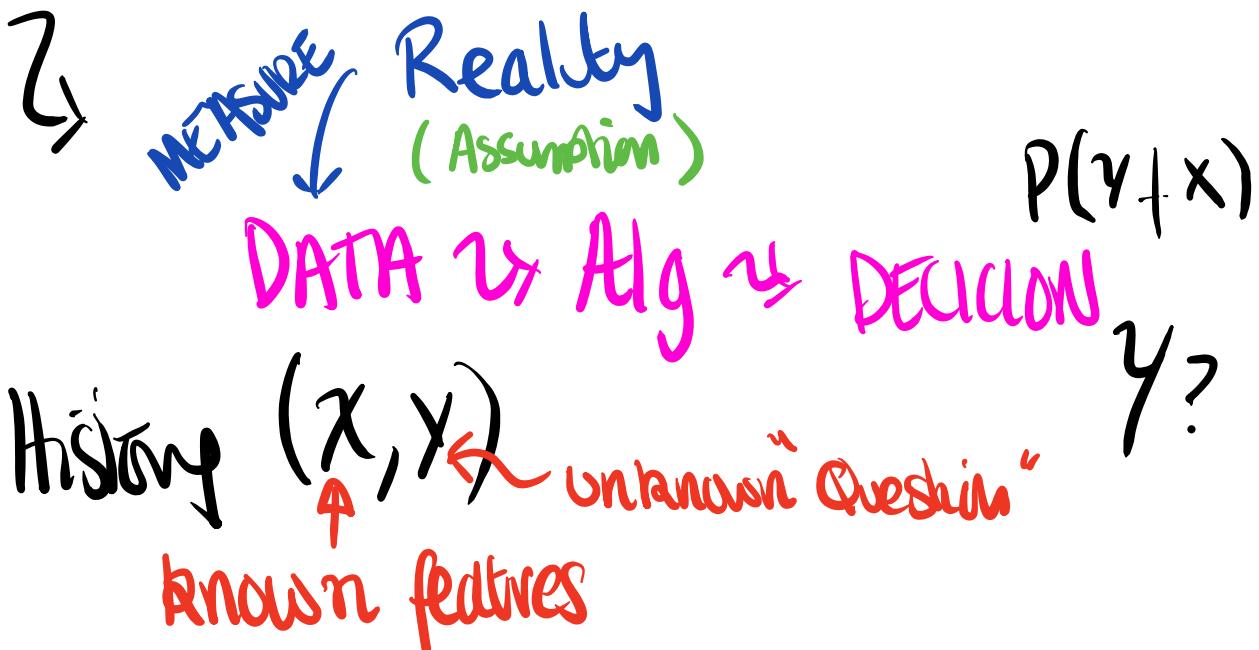
Eg. Self -driving car

{Videos, Drawing}

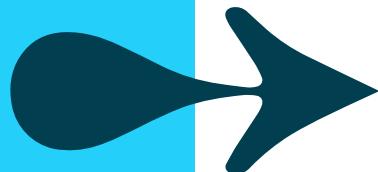
→ A → Actions



QA



WHAT IS MACHINE
LEARNING?



QA

Example

DATA : $(\overbrace{\{ \text{Age, Height...} \}}^x, \overbrace{\text{hike?}}^y)$



A



NEW :

$(\{ 21, 1.8 \})$ \xrightarrow{x} $y?$ $\xrightarrow{?}$ Yes

QA

MACHINE LEARNING

Unobservable
 y

Observable
 y

PREDICTIVE

INFERENCE

Supervised

(x, y)

Previous
Answers

unsupervised

(x, y)

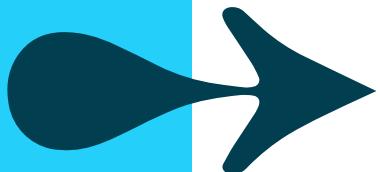
always observable

y Category
Classification

y Quantity
Regression

z-Compression

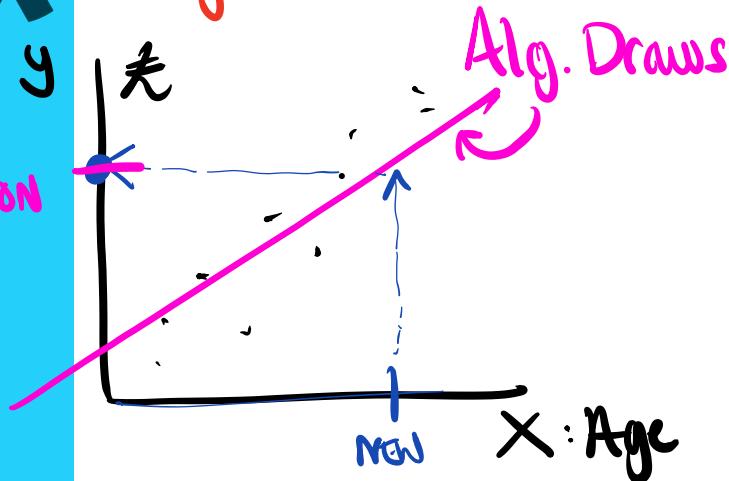
Clustering



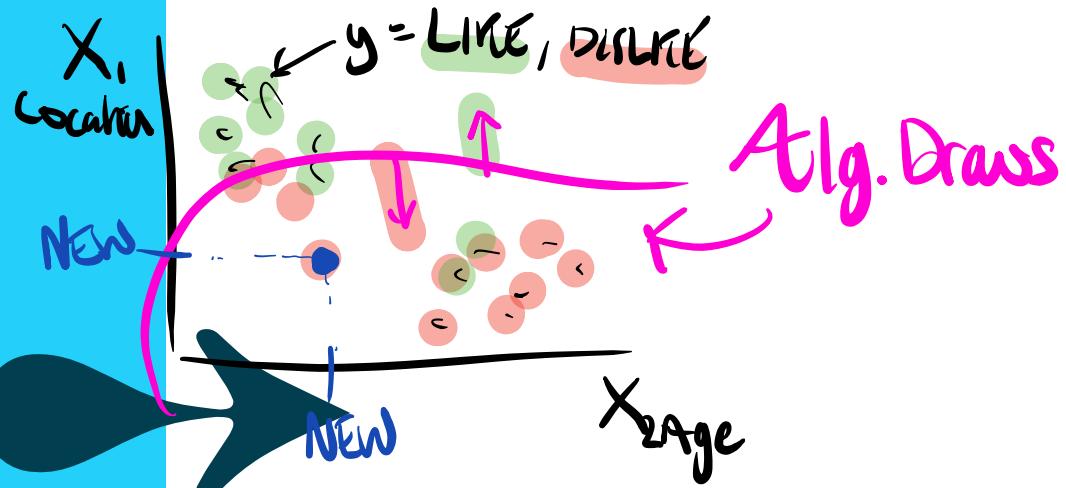
QA

PREDICTION

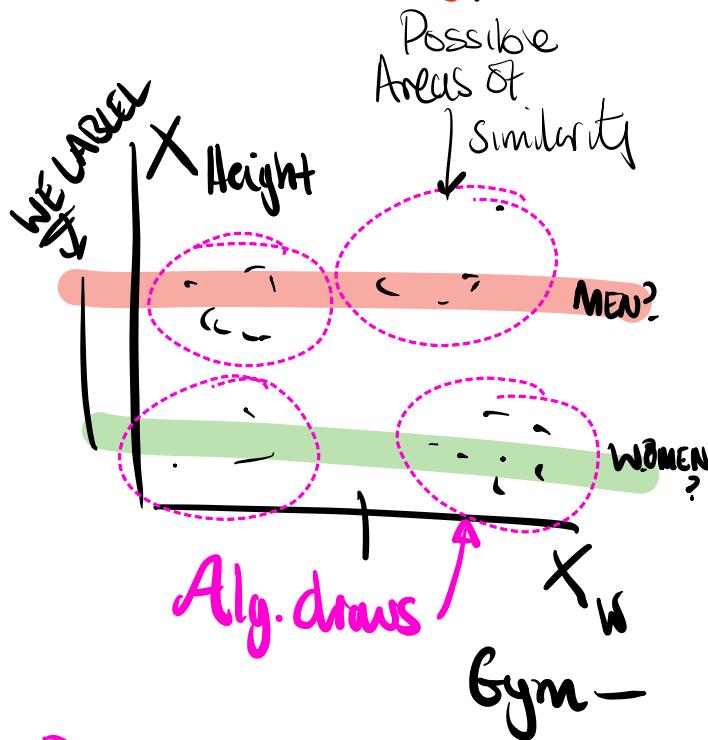
Regression



Classification



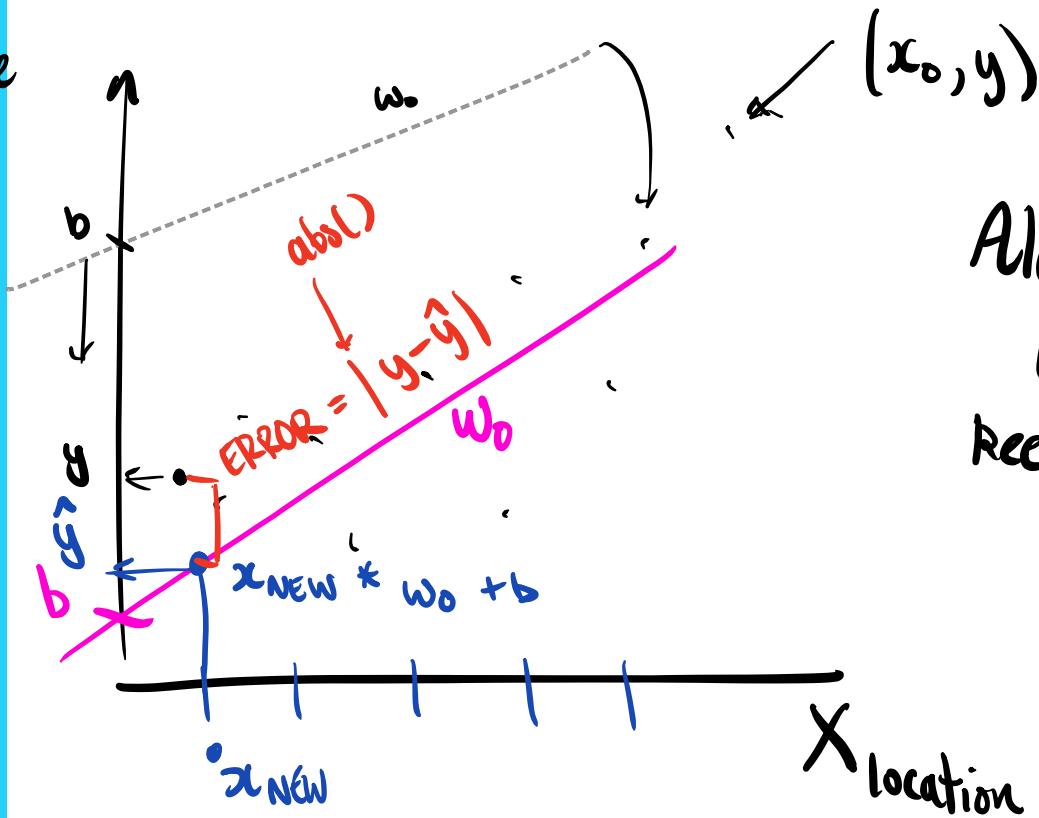
Clustering



QA

EXAMPLE: Regression

Price



Alg: try lots of
 (w_0, b)

keep best

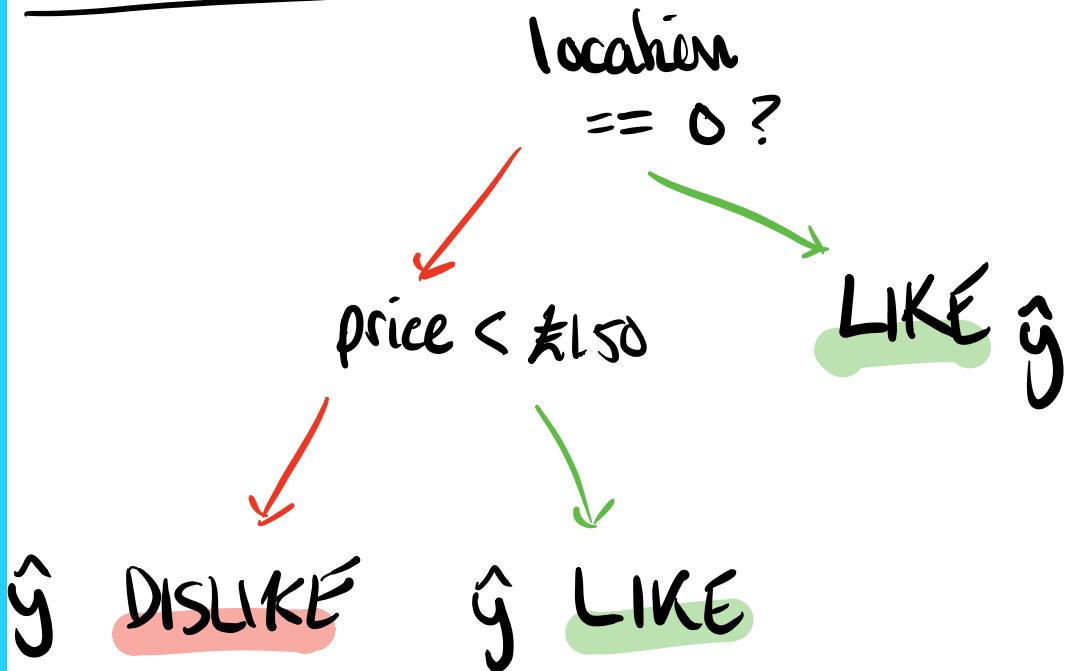
"Solving" / Model

QA

EXAMPLE: Classification

Decision Tree

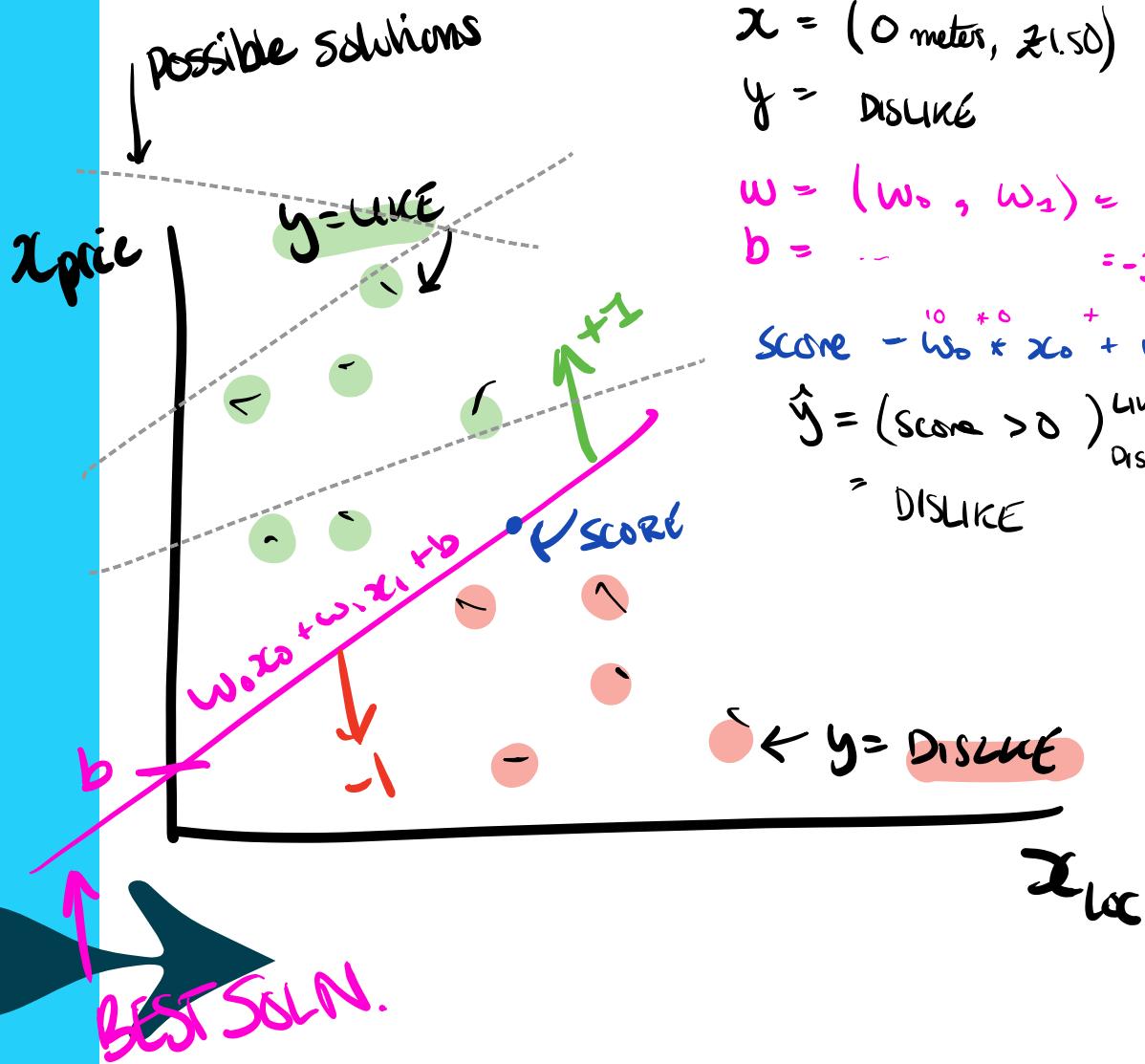
FALSE, TRUE
 $y \in \{0, 1\}$



Error = $|y - \hat{y}|$ NB. $y \in \{0, 1\}$
 $\hat{y} \in \{0, 1\}$

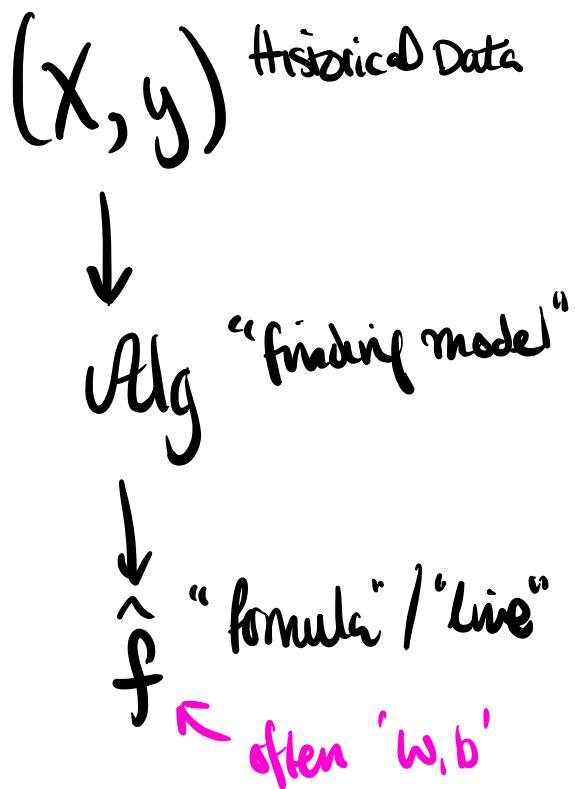
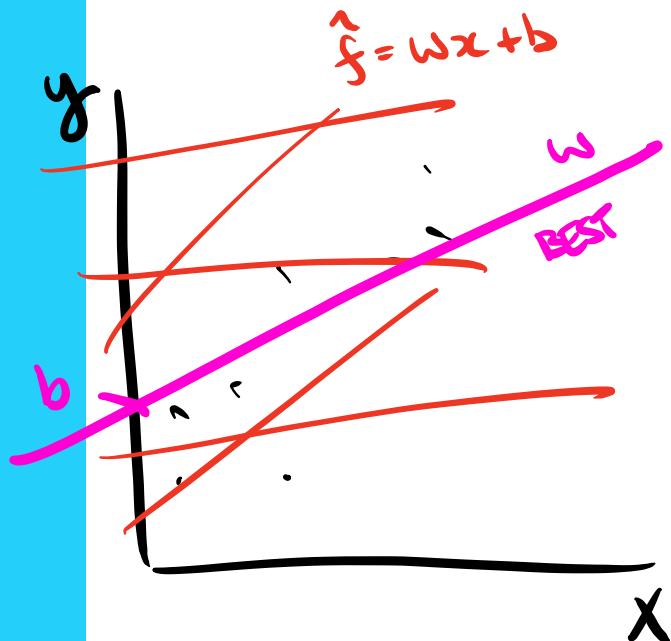
QA

Scoring Approach.

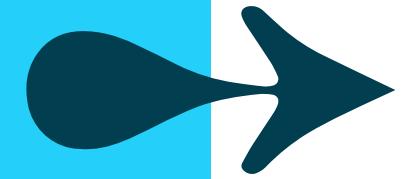


QA

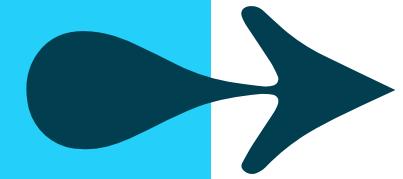
Reflection



QA



QA



QA

