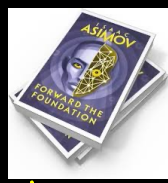# " The 100 Slide AI "

ISAAC ASIMOV'S 3 LAWS :-

1. A robot may not injure a human being or, through inaction, allow a human being to come to harm.

2. A robot must obey orders given to it by human beings except where such orders would conflict with the first law. [Robot shouldn't harm]

3. A robot must protect its own existence as, long as protection doesnot conflict with the first or second law. [Robot should help human being without thinking about its life]

PROPOSAL FOR MODIFICATION TO THE 3 LAWS FOR AI

1. AI should benefit all the earth and the inhabitants (not alone humans. → Benefit other parts of the ecosystem as well.

2. It should enhance the quality of life at all planes of existence (not only time and work efficiency)
   → It should accompany mental wellness.

3. If the user is human, augment the intelligence and perceptions of the user (liberation and not making them more dependent on them).
   → It must be your critical reviewer, it must help you think differently.

   → Never let go off your mental capability

   Does google map make us better navigators or it makes us dependent on it?
   → Makes us dependent.

Can you give 'Mukti' to the user rather than making the user dependent?

Use CHAT GPT to challenge yourself to maintain your cognitive thinking & your abilities.

"CONCERN FOR DECREASE IN REAL INTELLIGENCE"

THUMB RULES TO BUILDING AND DEPLOYING MODELS:-

1. Spend 80% of your time on understanding the domain; cleaning; preparing and insights into the data (EDA).

* Data Analysis

80% → Build your data as the data you got is never complete

20% → Refining your model.

2.

3. MVP (Minimum Viable Prototype):- 80% of 20% time → building a model that gives 80% accuracy atleast in the wild rather than 99% accuracy in validation set. → Random data

4. Spend only 20% of the 20% model building time in making it accurate.

5. Don't go looking for Labeled data.

→ MINIMAL DATA ✓

Less Labeled data → rely on prior knowledge OR rule-based models

JACKPOT More labeled data → Go for dup Learning

BALANCE← IN Between → Hybrid (data + Science models)

Accuracy + Reliability

80% Time rule on domain data

Garbage ——————→ | **AWESOME MODEL** | ——→ Garbage
IN   OUT

Rules for building Minimum Viable product - AI

Occam's Razor :- Simplest explanation is usually the best.
'principle of parsimony' :- If given 2 models,
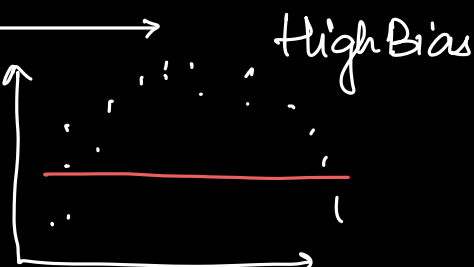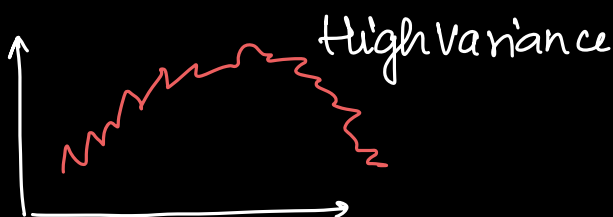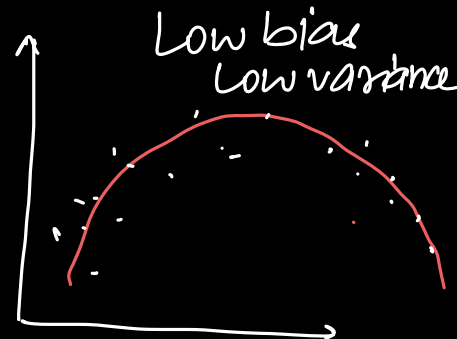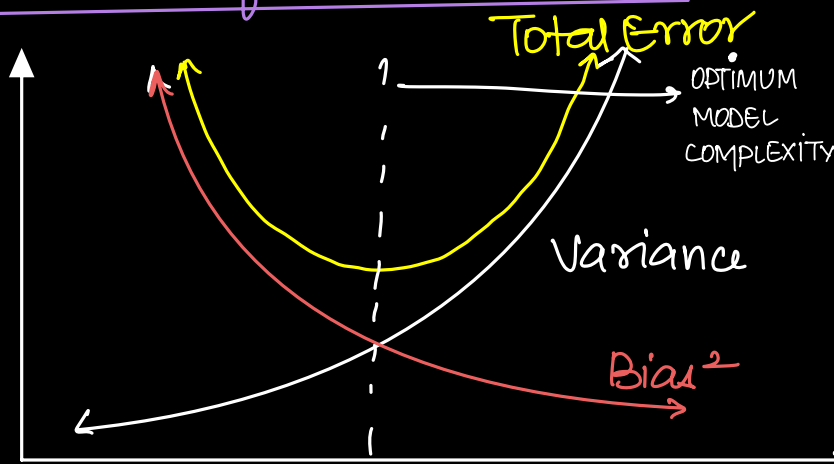always choose the simpler one.

Can you explain reliability of the Model? Say yes
——→ To explain, use the simplest possible
model (say if-else) with the fewest parameters)

As someone working for the world, you not only need
to build smaller LLMs, but also models with less footprints
less data, minimal amount, environmental footprint
⌐→ ETHICAL
RESPONSIBILITY

Variations of Occam's Razor :-

Total Error
OPTIMUM
MODEL
COMPLEXITY

Variance

Bias²

High Variance

High Bias

Low bias
Low variance

REAL WORLD APPLICATIONS :-

AGRICULTURE :-

Monitoring of farms :-   Sensing :-

Input, Data (images, audio etc)
Storing of information.

Temp | Humidity Measurement

IOT Devices:-

Cold Storages, Transporting, Logistics

Network of physical devices (things) embedded with
hardware, software and connectivity which enables
these to connect, collect and exchange data.

"IOT AND AI"

Soil Informatics, irrigation, phenotyping, Micro-Climate

Automated Variety Selection :-

Yield ↑se
Pests and Disease
Climate Adaption
Quality Improvement
Increase Gene diversity
Specific Traits
Sustainable Production
Reduced Input Resources -

Which variety satisfies
all / most of these
conditions?

How do you select
them

PHENOBOT → Phenotype (External trade /Visible)
Cloud Computing

"Thresholding"

UNET :- convolution & Extraction