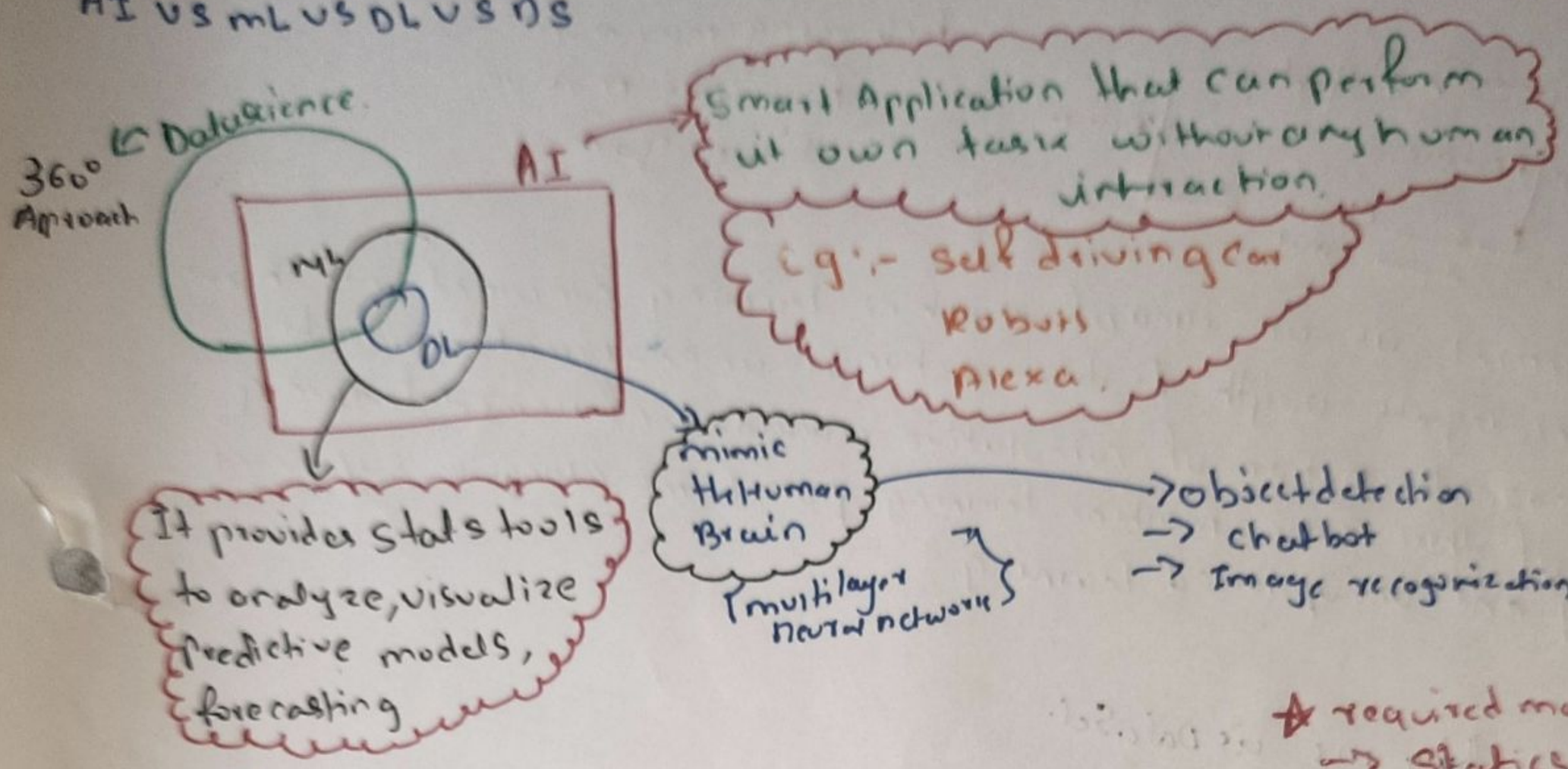
machine learning

AI vs ML vs DL vs DS



★ required maths for DS
- → Statics
- → linear Algebra
- → Calculus
- → Probability

★ machine learning types

① Supervised → classification (categorical o/p)
→ Regression (numerical o/p)

② unsupervised

③ Semi-supervised

④ Reinforcement learning

① Supervised ML (i/p and o/p both know)

classification (categorical) | regression (numerical)

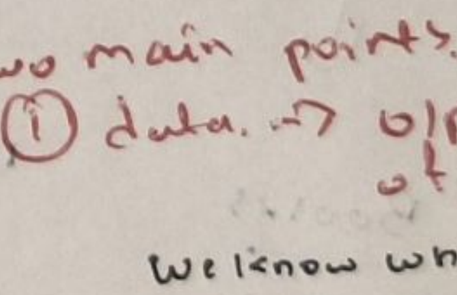
two main points.
① data. → o/p feature (Depented feature) of the dataset.

We know what o/p we have to take.

② unsupervised ML → wo o/p (I know)
↳ Clustering a data.

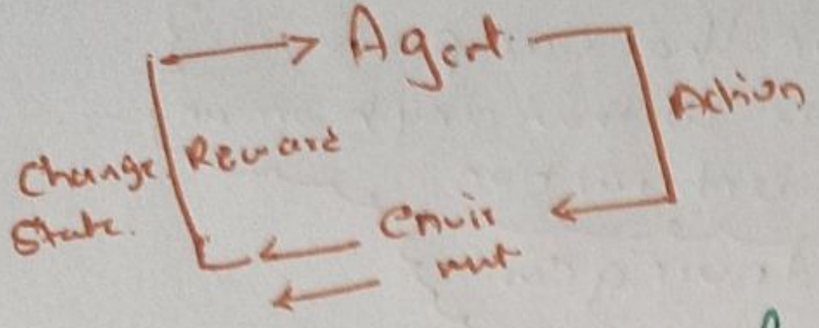
Eg: customer Segmantation

Expendiure



③ Semi Supervised -> supervised + unsupervised

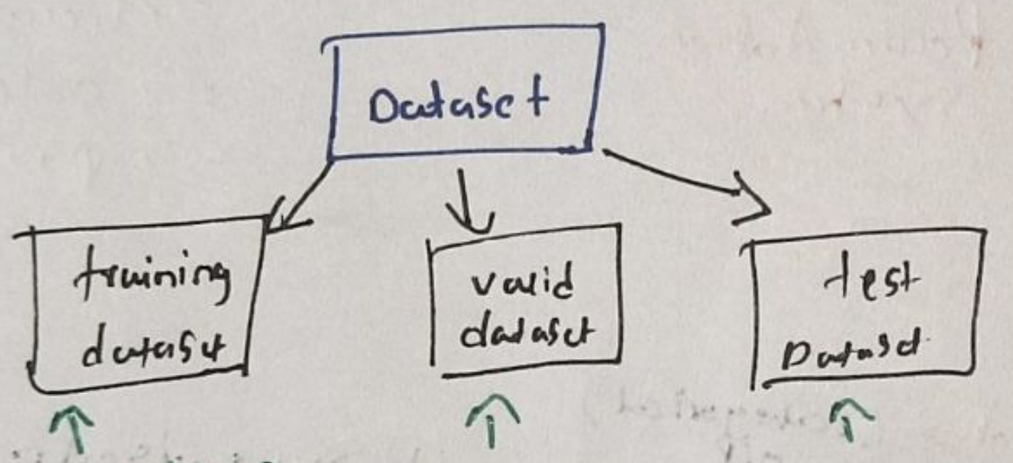
④ Reinforcement learning: -> Reward Based learning



Achieving maximum Rewards motive like games

Reinforcement is an area of machine learning concerned with how intelligence agents ought to take action in an environment in order to maximize the notion of cumulative reward. Reinforcement learning is one of three Basic machine learning paradigms alongside supervised learning and unsupervised learning.

☆ Important thing ML is Dataset.



Eg:-

Exam -> Books -> Q and A -> Train

Different Books -> Hyperturning -> accuracy

Exam question paper -> Brain Test

① model performance ⟶ model accuracy ↑↑

② overfitting and underfitting → Train accuracy ↑↑ 95% } overfitting
test accuracy ↓↓ 60%

Train accuracy ↓↓ 55% } underfitting
Test accuracy ↓↓ 50%

Low Bais High accuracy. → High Bais / High variance

Generalize → Train accuracy ↑↑
Test → acc ↑↑
} low Bais, low Variance.