Task: “Build & Judge a Mini AI”

Part 1 — Chronology of AI

Write one real-world example for each stage:

Machine Learning → Chess Engine Tells us the next best move.

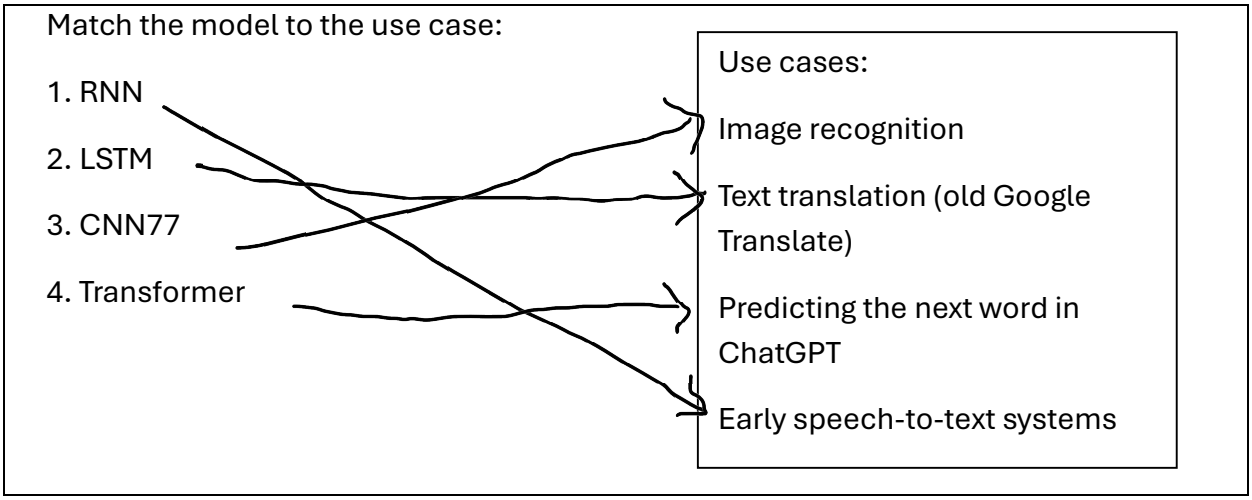
Deep Learning → Self driving cars navigation while avoiding accidents.

Computer Vision → Face Unlock on Smartphones

NLP → Alexa for playing songs or Siri.

LLMs → Use of LLMs (like chatgpt or claude) for helping you with your chores.

Part 2 — Deep Learning Architectures



Part 3 — Frameworks

Choose one framework (PyTorch / TensorFlow / Keras).

In one sentence, explain why you would use it if you were a student making a

cat-vs-dog classifier.

Answer : As a student I would go for Keras because it is beginner-friendly, and also has ready-made layers for a cat vs dog classifier.

Part 4 — Evaluation Metrics

Imagine you built a spam filter. Answer:

Precision: If it marks 10 emails as spam and 7 are truly spam → what's

Precision? -> 7/10 = 7

Recall: If there were 12 spam emails in total, how many did it catch? -> 7/12 = 0.58

(use same example)

F1 Score: Use the formula and calculate (round to 2 decimals)

-> 2*(0.7*0.58)/(0.7 + 0.58)= 0.63

MSE/MAE: Predict your friend's age (actual = 15, prediction = 18). Which

metric punishes the error more? Error =3, MSE= 9 whereas MAE = 3, MSE punishes more.

BLEU/ROUGE: AI translated "The cat sat on the mat" as "Cat is on the

mat." Which metric (BLEU/ROUGE) do you think would give a high score?
Answer :-

ROUGE will give higher score (captures overlap, not exact word order).

Part 5 — Responsible AI & Explainability

You built an AI that predicts loan approvals.

A customer asks, "Why was my loan rejected?"

Write one simple way to explain the decision fairly (e.g., "Your income was too

low compared to the loan size").

Answer: There should be no bias present in the answer we are going forward with. So going with something like:-

“Your loan was rejected because your credit score is below the minimum required threshold”.

-> As this points to an objective factor not personal bias.

Deliverable: Each trainee should write answers in 5–7 short lines.