Class Notes: Know the concepts! Real-life examples

Solved, unsolved, need to work

The branches of AI (3)

AGI:

Generative AI: generating something for you.

Machine Learning: takes input, takes output - Gives out an algorithm

* Input: email, Output: spam algorithm, spam filtering
* Audio captions speech recognition
* English Chinese translation
* Add/ click on add advertisement
* Images / data info everything around one object recognition
* 3d image defective/not defective QA visual inspection

Supervise learning

* There are always supervising it.
* Generative AI

Wrong use of data: The Data is right, not used correctly.

* GPT was used in a hospital for medication; the person died because the data was used wrong.

Data poisoning. Bad data, malicious intent.

* The wrong data that the system learns and gives to us.
* Can negatively impact the efficiency

Responsible AI: If the data is not diverse enough, it will not be used correctly.

Machine learning learns live data.

* It builds its algorithm with live data
* It’s hungry, it eats all the data.

GPT uses stored data- it does not learn anything. It only stores content.

* It doesn’t use Google; it uses your data from the prompt.
* Grab data- Retrain- transform

Companies fear AI, because of the unknown

Prompt engineering

Business use case:

Diligence is necessary

Manual

* Reactive maintenance (someone has too manually do it)

Automatic

* Proactive maintenance – Scheduling maintenance - Batch processing (still need someone, but will be scheduled because there’s too much data)

AI (more expensive)

* It is always learning- Predictive Maintenance. Can predict the problems.

Generative AI (more expensive)

* Generates new tasks, gives you new tasks that will help solve the problem. Improves efficiency. Efficient maintenance.
* It can break if the data is not correct.

Bad Cop example: people can die, people can lose jobs.

LLM: large language model

* Learns anything you give it and gives the output.
* GPT
* Generates text, among other tasks.

LMM: large multimodal Models

* Generative AI that deals with morality.
* Input a song - output the lyrics.
* GPT4
* Can process and understand multiple types of data modalities.
* You pay more, but you get more.
* Hugging face will help you