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NOTES

There are **3** major AI Applications, Artificial Narrow Intelligence, Generative AI, and Artificial General Intelligence.

* Artificial Narrow Intelligence is an application used for a specific purpose or industry. For example, Alexa, Amazon warehouse, or even for the farming industries. If the Amazon warehouse application was used in a different way, then it was intended it would not function because it is designed to specifically to the warehouse, its function is by weight to automatically reduce the counter so it can order more when it reaches a certain number as they are ordered by online shoppers.
* Generative AI can generate or create images, video, stories, beats but with supervised learning. ChatGPT is the most common example of Generative AI.
* AGI or artificial general intelligence is but a dream at this point. The theory or idea is to have it mimic a human.

Machine learning is always learning from inputs to produce an output. It uses the data it learns or is trained with to **predict** and create an algorithm. YouTube, Facebook, and Instagram use machine learning to customize your feed, ads, videos, reels, and shorts by learning from the users clicks and likes.

Common Phrase in AI = “**Garbage In, Garbage Out**”

The nature of jobs will change, humans will need to aide Machine Learning. Fatalities can still happen without due diligence humans have a responsibility to check over the work of AI because it is like a small child who is still learning and might be missing some crucial data like geographical data.

* **Responsible AI -** A new branch that’s evolving. What not to do with AI and what to do with AI.
* **Transformers –** Type of **neural network architecture**
* **LMM - Large Multimodal Model: (**ex: ChatGPT 4) A type of AI that understands and process different kinds of data all at once. It can combine inputs to perform output tasks like generating captions, analyzing complex content or answering questions about an image.
* **LLM – Large Language Model: (**ex: ChatGPT 3 or older) Designed to understand and generate human-like text. It is trained with a huge amount of text data and can perform tasks like writing stories, answering questions, translations, and predicting the next word in a sentence.

\*Sidenote: Look up Harshad Mehta, Streamlit(Python Gen AI), OpenAI Key, Huggingface.com and Teams Channel for this class.

The industry is split at this moment in 2025 by 2035(give or take) it will all be under the AI Teams. For now, there is the IT Teams that use to code, develop codes, run and test those codes, fix hardware, create patches or firmware updates. Now there are AI Teams whose goal is to make IT Teams be challenged and to not have mundane work. The AI teams will make applications to produce codes that the IT teams can then run without having to code because the AI will do that work for them now.

Wrong Data: Garbage In and Garbage Out

Using Data wrongly: Using the data to exploit or for the wrong reasons.

Role based access control is needed to stop the misuse of data to avoid using the data wrongly.

* **DATA POISIONING -** Malicious Intent to introduce data to the learning model to disrupt.

Deep Learning- Neural Network

There are **2** types of companies

* AI Companies: Companies that have been in the world of IT that are collaborating with AI. Ex: Microsoft partnering up with OpenAI
* AI First Companies: Companies that started with AI and focus on AI applications

**Prompt Engineering:**  A job where you must type the input with the correct prompt in order to get the right output for desired results.

* Solving problems and creating = AI

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| **Manual** | **Automatic** | **AI** | **Gen AI** |
| *Reactive* in nature | *Schedule* Maintenance | *Predictive* Maintenance | *Task-based* Maintenance |
| Maintenance person | Batch Processing | Data | Creates new tasks/lists |
| Must go see and perform tasks as they come up | Automatic can fail w/o diligence might happen every 3 mnths | Machine learning uses data to predict tasks | Improves efficiency  Based on relevant data and it can create tasks to fix/avoid issues. |

\*\*Why did the AI go to therapy? \*\*

The training data was poisoned and all prompts turned into an existential crisis.