**TODAY SESSION TOPICS**

**PROMPT ENGINEERING**

* **AI →** The model or system that processes your input and generates a response.
* **Prompt Engineering →** The skill of designing, wording, and formatting your input (the “prompt”) to guide the AI’s behavior and responses.

**\*Think of AI as a super-smart assistant —** it can do almost anything, but it only understands exactly what you ask.

If your prompt is vague, you get vague results.  
 If your prompt is detailed and well-structured, you get precise, high-quality results.

**Bad Prompt:**

Write about AI**.**

**Good Prompt:**

Explain what artificial intelligence is, in simple terms, with 3 real-life examples and a short conclusion. Use bullet points for clarity

**HUMAN TEST:**

A human test is simply a way to check if something is being done by a real person or by a computer program (bot).

**Example:** When a website asks you to “click all the images with traffic lights” or type the letters you see in a picture, that’s a human test.

It’s used to stop bots from misusing websites.

**NATURAL NETWORK:**

A neural network is a computer system designed to work a bit like the human brain:

* It has layers of “neurons” (small processing units).
* Each neuron receives data, processes it, and passes it to the next layer.
* By adjusting the connections between neurons, the network learns to recognize patterns — like faces, speech, or handwriting

**example:**

Just like your brain learns to recognize a friend’s face over time, a neural network learns to recognize patterns in data

### **ML (Machine Learning)**

1. Teaches computers to learn from data.
2. No need for direct step-by-step coding.
3. Used in spam filters, recommendations, predictions.

### **4. DL (Deep Learning)**

1. A type of machine learning with many layers.
2. Handles complex problems like speech and image recognition.
3. Needs a lot of data and computing power.

### **5. Generative AI (Gen AI)**

1. Creates new content like text, images, or music.
2. Works by learning from existing examples.
3. **Examples:** ChatGPT, DALL·E, Midjourney.

### **6. Agentic AI**

1. AI that can act like an agent — makes its own decisions.
2. Can plan, take actions, and adapt to new situations.
3. Example: AI assistants that can book tickets or manage tasks without step-by-step instructions**.**

### **7. Feature Engineering**

1. Picking or creating the right input features for AI models.
2. Helps AI learn better and faster**.**
3. **Example:** From a date column, create day, month, year as separate features

### **8. Tokenization & Processing (in Gen AI)**

1. Splits text into small pieces called tokens.
2. AI processes tokens to understand meaning.
3. Helps AI handle any language or input efficiently**.**

### **9.Prompt Engineering**

1. Writing clear instructions for AI.
2. Gives context, role, and format to get better answers.
3. Improves results by testing and refining prompts.

#### **How (Process)**

1. Give clear and specific instructions.
2. Add context or examples.
3. Set format, tone, and role for AI.

#### **Why (Importance)**

1. Good prompts → Better AI results.
2. Saves time and avoids confusion.
3. Makes AI act like a specialist instead of general.

#### **What (Definition)**

1. Prompt = Instruction to AI.
2. Can be question, statement, or command.
3. Goal is to guide AI to desired output.