UNDERSTANDING LARGE LANGUAGE MODELS (LLMS)

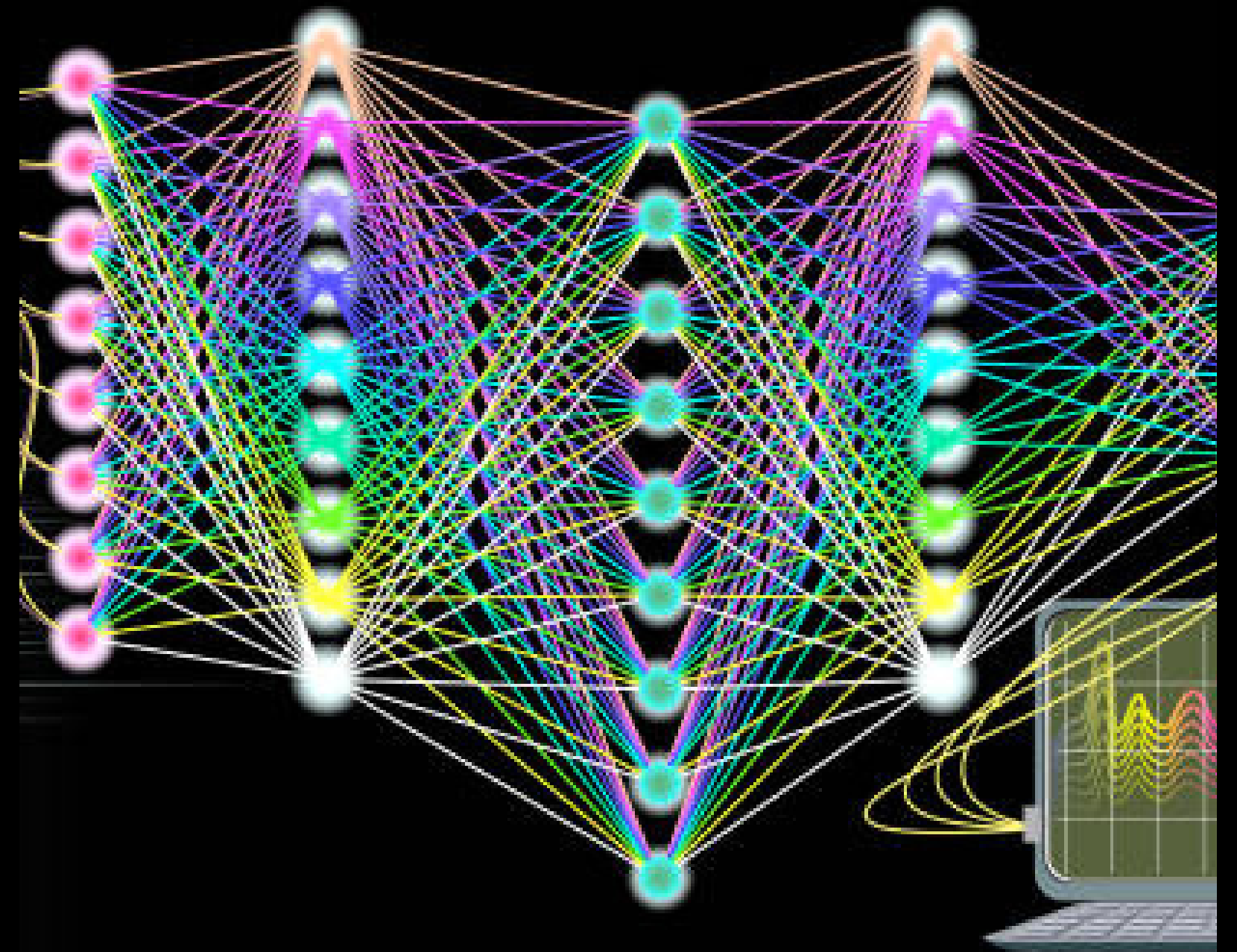WHAT THEY ARE, HOW THEY WORK, AND WHY THEY MATTER

What is an LLM?

- A Large Language Model (LLM) is a type of AI that understands and generates human language.
- Trained on massive amounts of text data.
- Examples: GPT (OpenAI), PaLM (Google), LLaMA (Meta)

How Does an LLM Work?

- It learns from billions of words and patterns in text.

- Predicts the next word in a sentence.

- Uses neural networks, especially transformer architecture.

Training LLMs

- Needs high computing power and large datasets.
- Pre-training: Learning from vast text.
- Fine-tuning: Adjusting on specific tasks (e.g., legal, medical, coding).

Examples of LLMs

- GPT-4 (OpenAI) – Conversational & coding tasks
- Claude (Anthropic) – Ethics and alignment focused
- PaLM 2 (Google) – Multilingual capabilities
- LLaMA (Meta) – Open-source research model
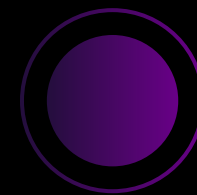
Applications of LLMs

- Chatbots & Virtual Assistants
- Content Generation (Text, Code)
- Translation & Summarization
- Education & Tutoring
- Legal & Medical Drafting

Benefits of LLMs

- Saves time and resources
- Enhances productivity
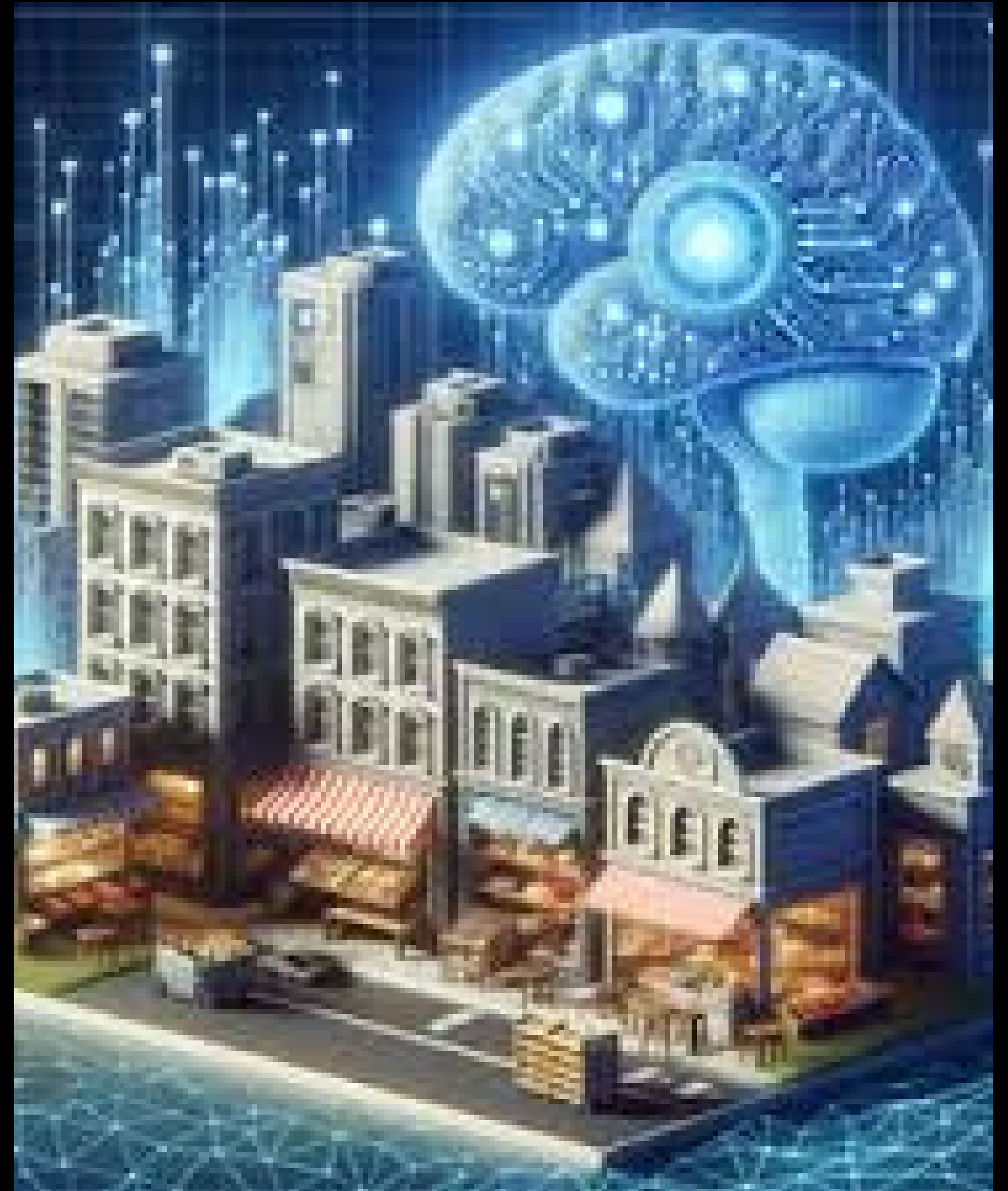- Multilingual capabilities
- Constantly improving with data

Future of LLMs

- More personalized and accurate AI
- Better memory and reasoning
- Integration with tools (like code, internet)
- Used in Agentic AI for complex tasks

Conclusion

- LLMs are transforming how we interact with technology.

- From simple chatbots to complex agents, they are the future of AI.

- Understanding LLMs is key for students and professionals alike.

THANK YOU
PRESENTATION
MADE BY:
RABIA SOHAIL
ROLL NO: 172709