

UNDERSTANDING **ARTIFICIAL INTELLIGENCE**

An Overview of AI & LLMs





THANK YOU – LET'S SHAPE THE FUTURE TOGETHER!

Let's Take the Next Step Toward a Brighter Future.



WHAT IS ARTIFICIAL INTELLIGENCE

- The ability of machines or computers to mimic human intelligence.
- It involves creating systems or programs that can perform tasks that typically require human intelligence, such as understanding language, recognizing patterns, making decisions, and solving problems.



HOW AI WORKS



01

Learning

AI systems can learn from data.

Eg. if you show an AI many pictures of cats and dogs, it can learn to tell the difference between them(machine learning)

02

Thinking

Analyzing information and making decisions (e.g., voice assistants like Siri or Alexa)

03

Adapting

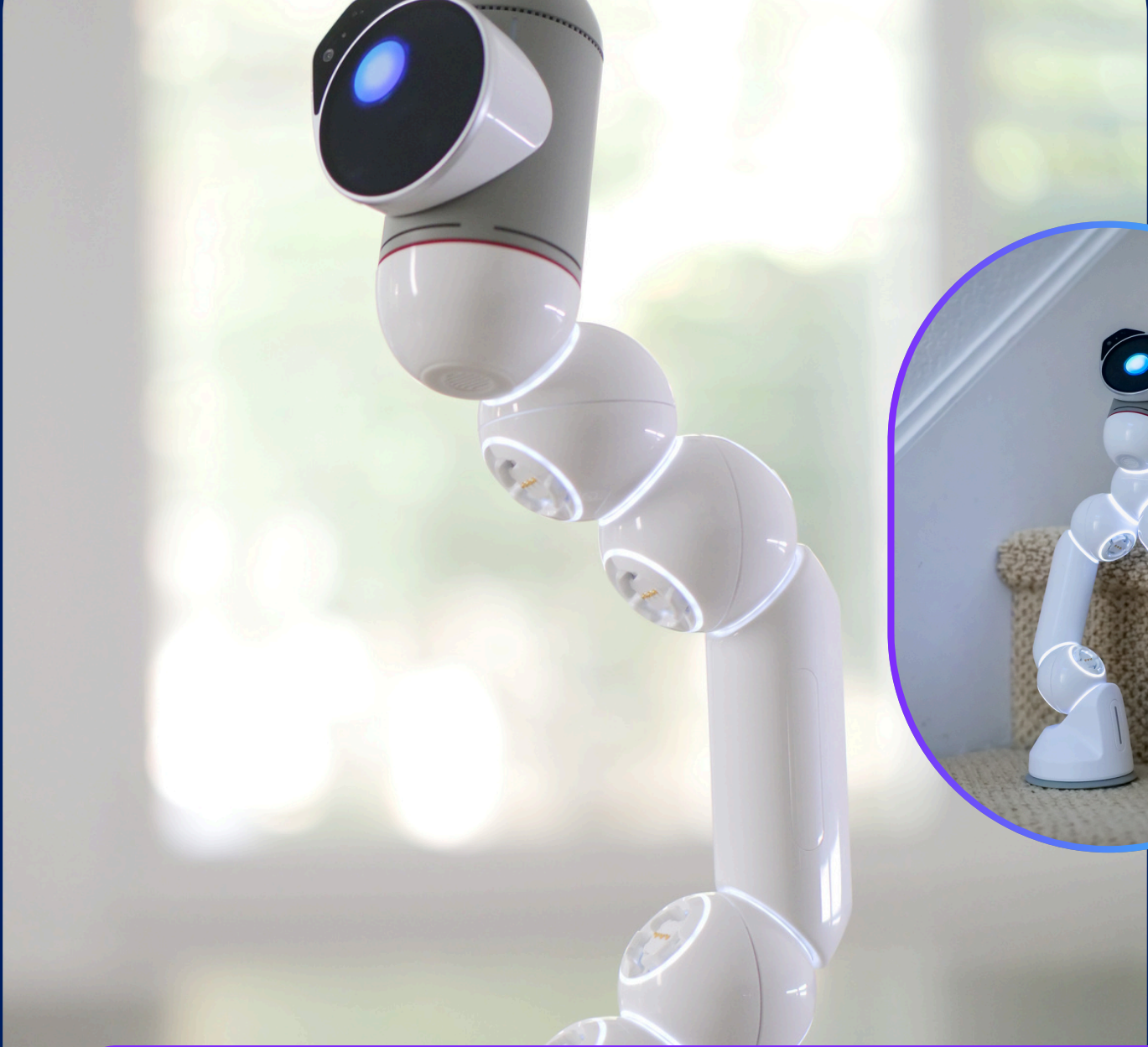
Improving over time by learning from mistakes. The more data it gets, the better it becomes at tasks, just like how people learn from experience.



EXAMPLES OF AI IN EVERYDAY LIFE

- Chatbots: Customer support.
- Navigation Apps: Google Maps.
- Recommendation Systems: Netflix, YouTube.
- Voice Assistants: Siri, Alexa.





DIFFERENCE BETWEEN AI AND ROBOTS



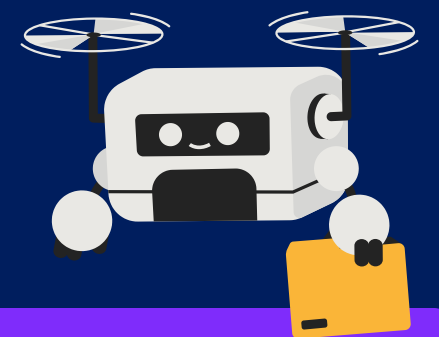
AI

The “brain” or “software” that thinks and makes decisions.



ROBOTS

Physical machines that perform tasks, some using AI.





INTRODUCTION TO LARGE LANGUAGE MODELS



- A type of artificial intelligence (AI) system designed to process and generate human-like text.
- These models are trained on massive amounts of text data and use advanced techniques (like deep learning) to understand, predict, and generate language.

KEY FEATURES OF LLM

01

Large Scale

Billions or trillions of parameters.

02

Language Understanding

Context, nuances, tone.

03

Versatile Abilities:

Writing, answering questions, generating code.

04

Learning from Data

Trained on vast datasets to acquire language and world knowledge.



EXAMPLES OF LLM



- ✓ **OpenAI's GPT**
 - ChatGPT
 - GPT-3
 - GPT-4
- ✓ **Google's Bard**
 - Pathways Language Model(PaLM)
- ✓ **Anthropic's Claude**
 - Conversational AI
- ✓ **Meta's LLaMA**
 - Language models by Meta

HOW LLM WORKS

Training Phase:

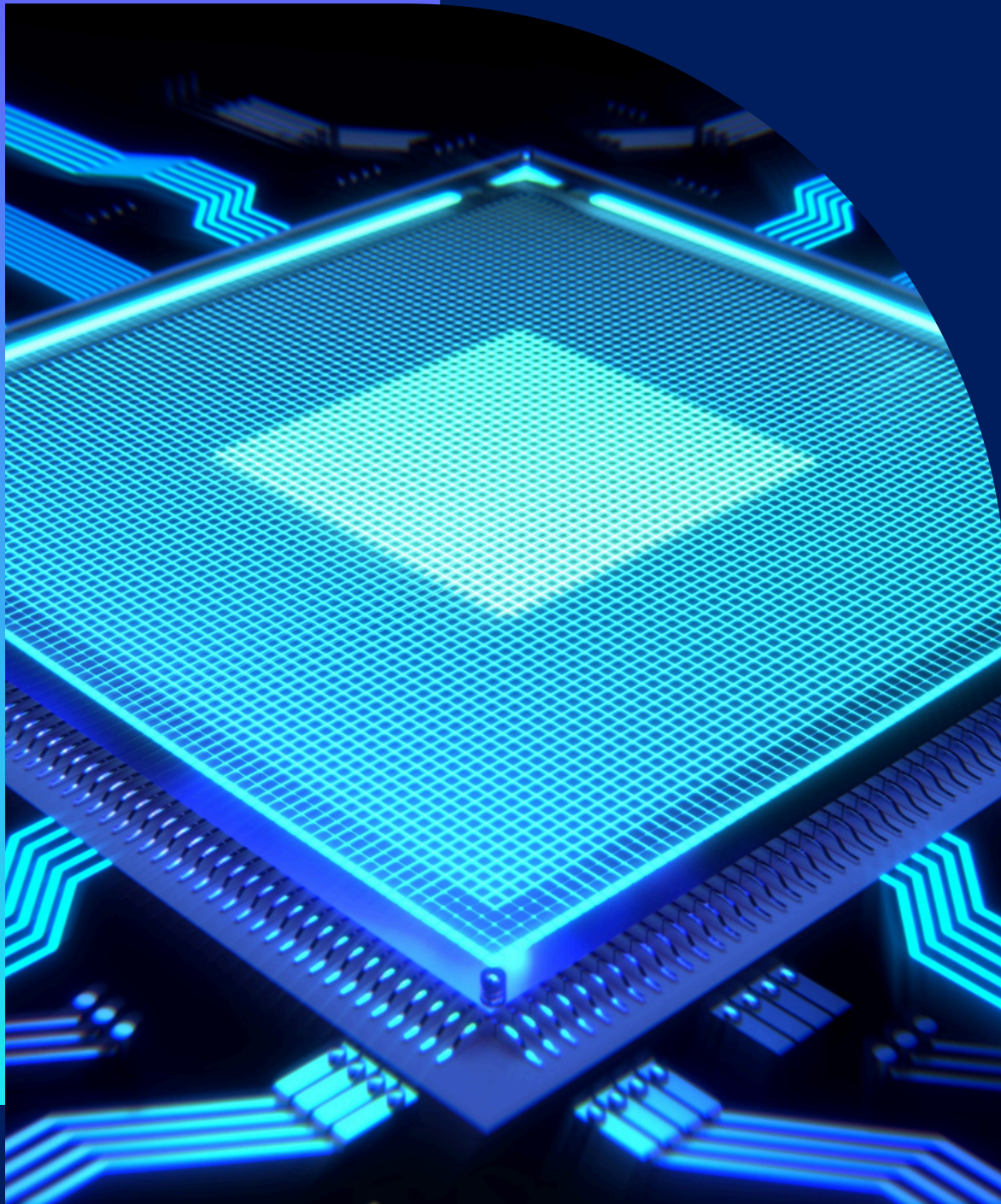
- Learning language patterns, grammar, and factual knowledge.

Inference Phase:

- Generating text, answering questions.

Transformer Architecture:

- Handling sequential data like text.



APPLICATIONS OF LLMs

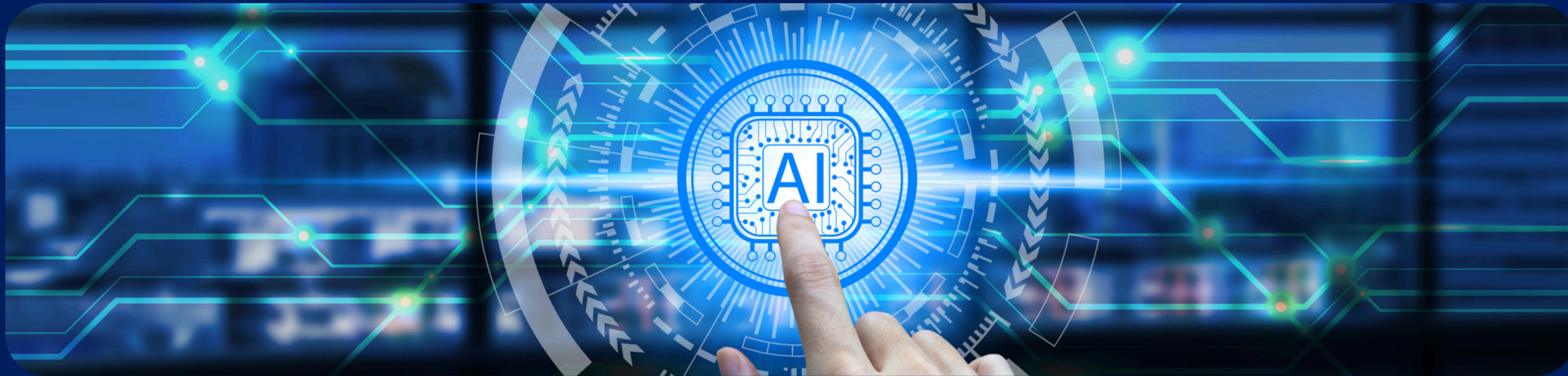
- Chatbots
- Content Creation
- Coding
- Language Translation
- Summarization
- Education & Tutoring





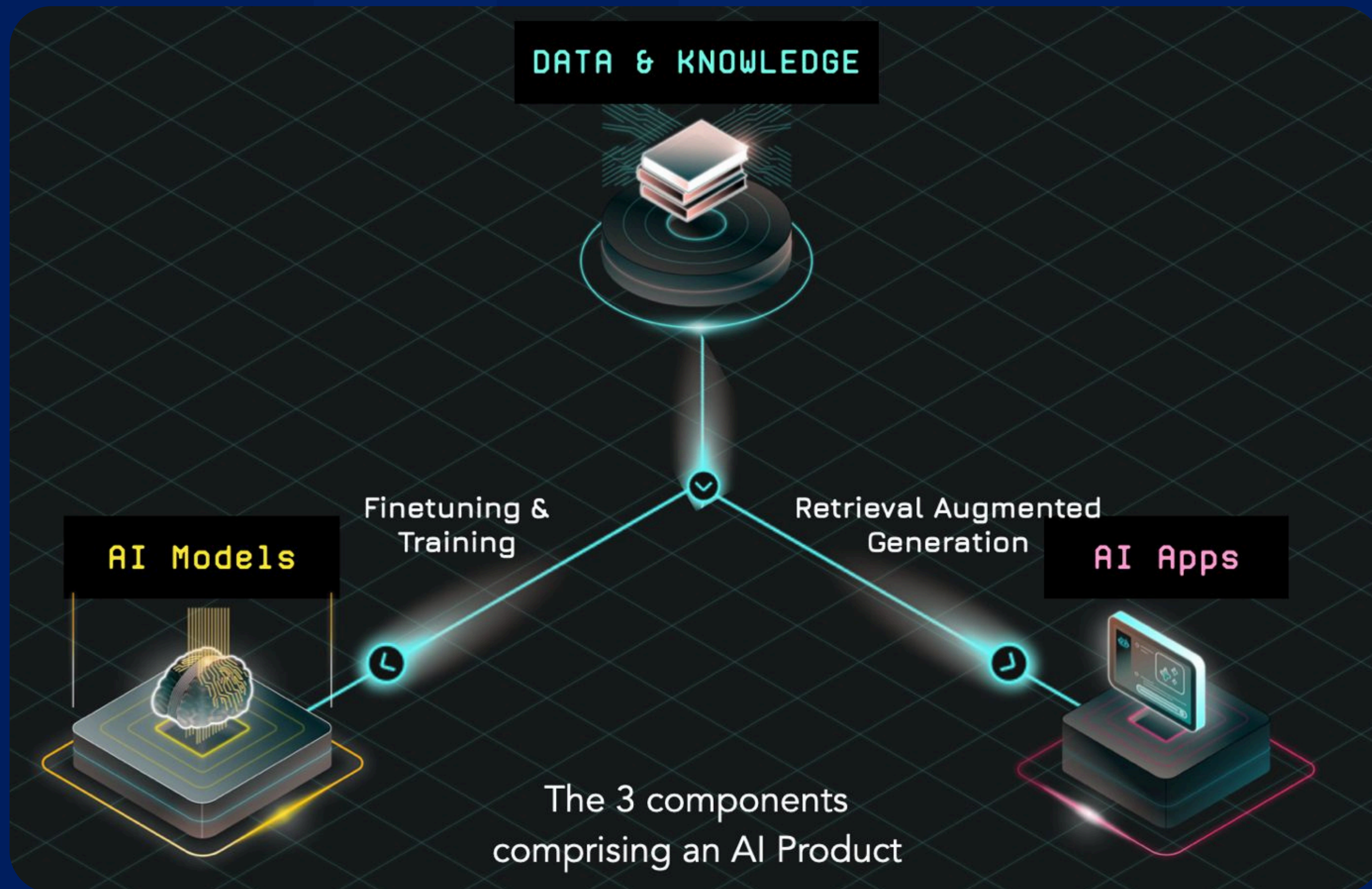
STRENGTHS OF LLM

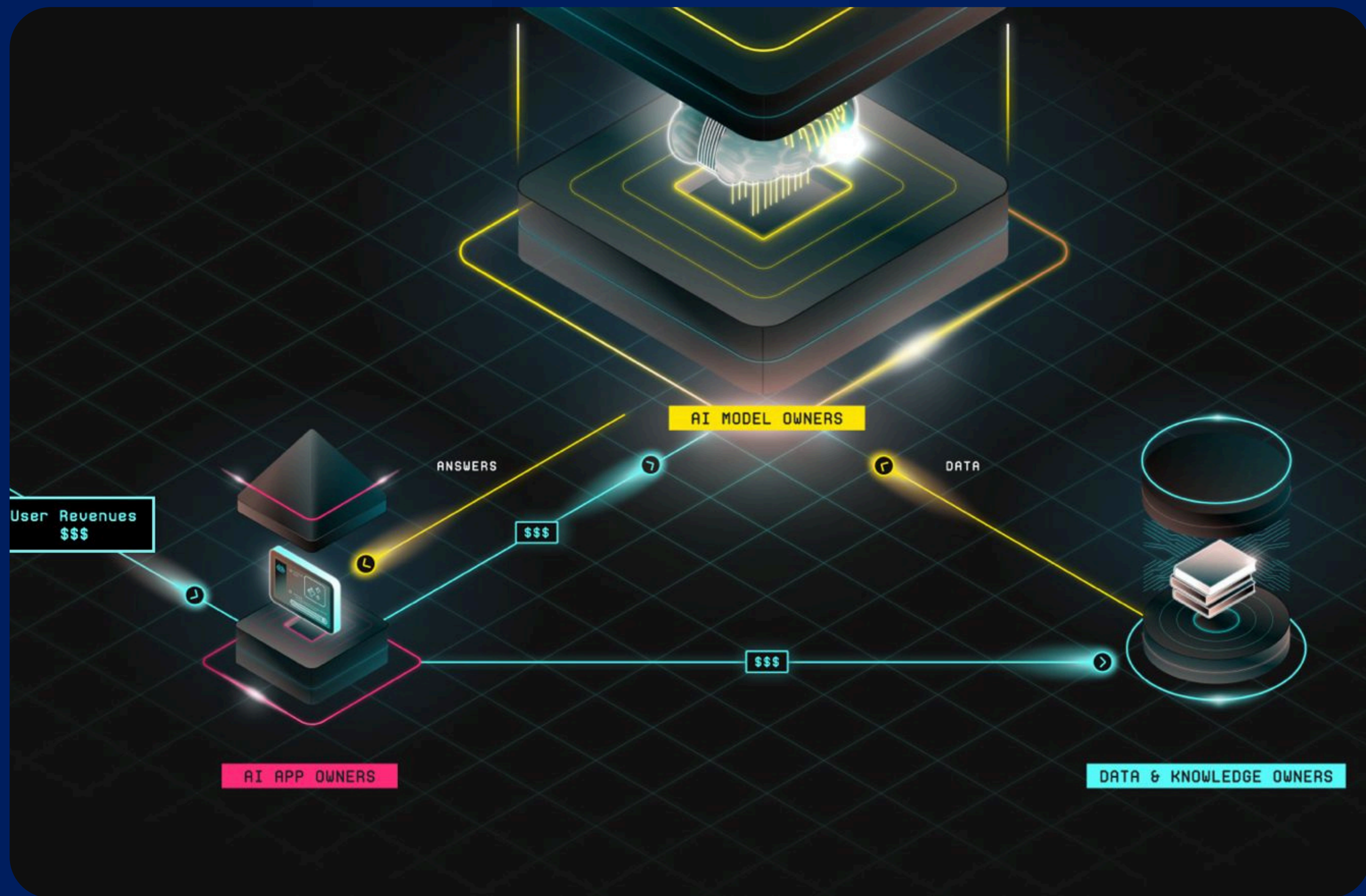
- ✓ **Natural-Sounding Text**
Understand and generate natural-sounding text.
- ✓ **Wide Range of Tasks**
Handle a wide range of tasks with little customization.
- ✓ **Adaptability**
Adapt to specific needs through fine-tuning.



CHALLENGES AND LIMITATIONS OF LLM

- **Accuracy:** Potential for incorrect or misleading information.
- **Bias:** Reflecting biases in training data.
- **Data Dependency:** Need for vast amounts of high-quality data.
- **Lack of True Understanding:** Generating output based on patterns, not reasoning.

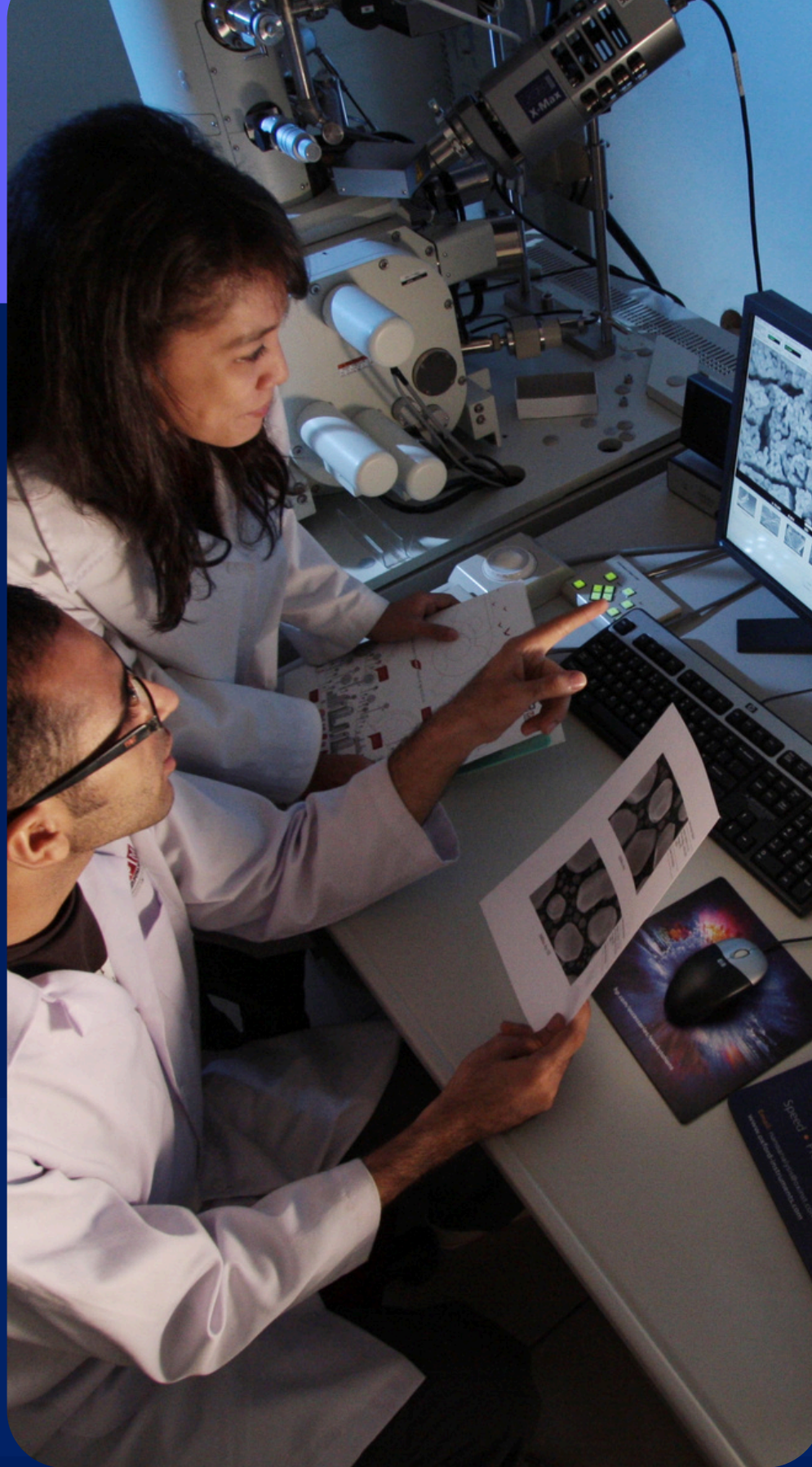






ImaChek

Bringing Clarity to Research



01

Proactive Librarianship:
Amplifying Research Visibility & Impact

02

**Transforming Institutional
Repositories with Generative AI:**
Boosting Engagement & Usage

By Dr.Wong Woei Fuh



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