# Artificial Intelligence or Intelligence of the Artificial?

## Where Does the True Power of Intelligence Lie?

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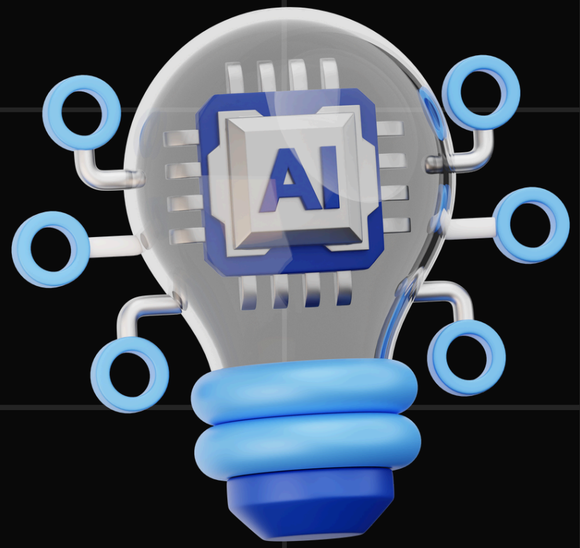
# Outline



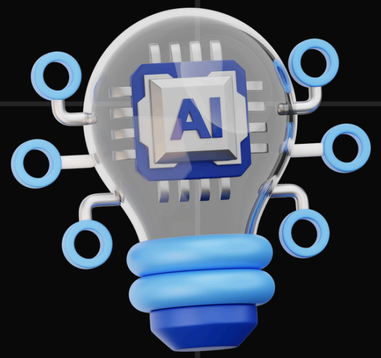


**Introduction and Background**
Set the tone for the presentation

**The Blackbox**

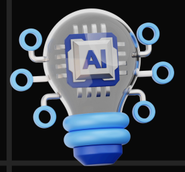
- Demystifying Artificial Intelligence
- Prompt Engineering: The Human in the Loop


- The Encoding of Values and Biases
- The Unique Value of Human Intelligence
- Responsibility in the Age of AI

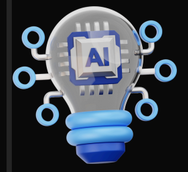



# HouseKeeping

## Introduction and Background

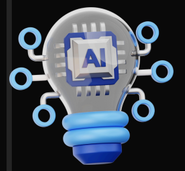


## Appreciation



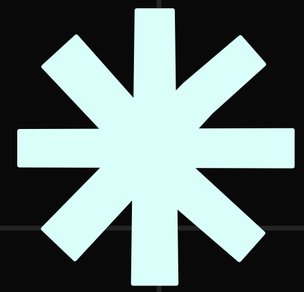
## Background story

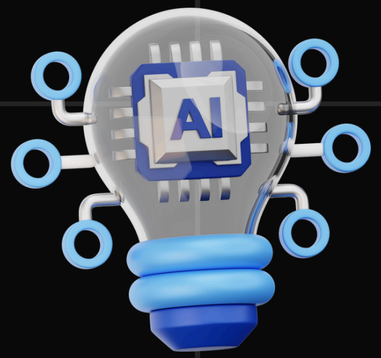
Demystifying AI beyond the hype



**Goals of the presentation**

- To clarify what AI actually is beneath the hype and mystique
- To examine the persistent role of human intelligence in AI systems through the lens of "prompt engineering"
- To articulate the enduring moral and intellectual responsibilities humans bear in an age of increasingly capable machines






# The BlackBox

## Demystifying AI beyond the hype

# What is AI?

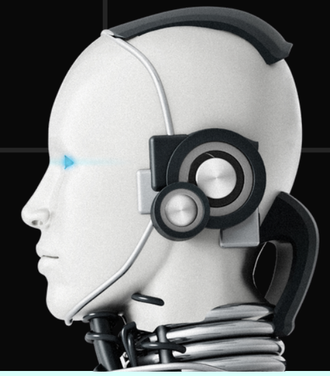
Artificial Intelligence (AI) refers to the development of computer systems capable of performing tasks that typically require human intelligence.

**These tasks include learning, reasoning, problem-solving, perception, and language understanding.**

# Demystifying AI

## What AI Actually Is

- Statistical pattern recognition at unprecedented scale
- Trained on vast collections of human-created content
- "Learning" = mathematical optimization of parameters
- Not "thinking" but predicting likely responses



# Demystifying AI

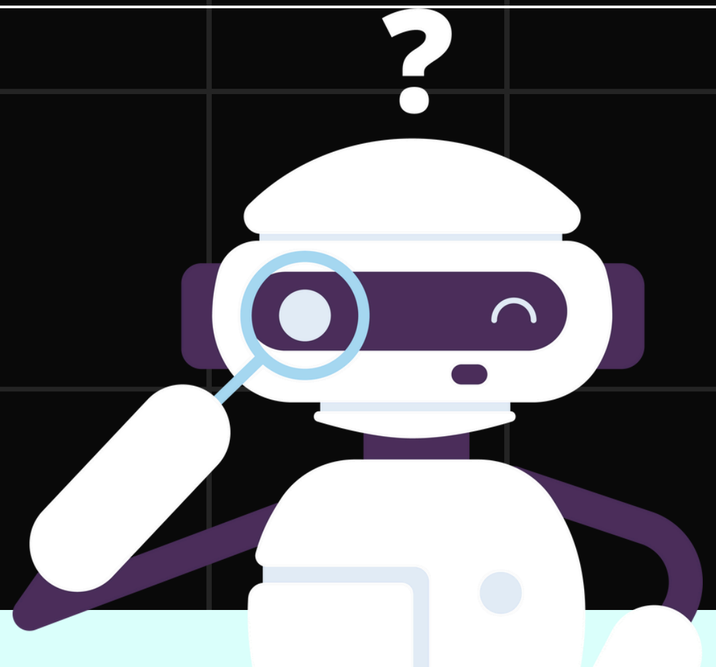
**The Mirror Analogy:**

***"A mirror, no matter how polished or perfectly crafted, cannot show you anything that is not already present in the world it reflects."***

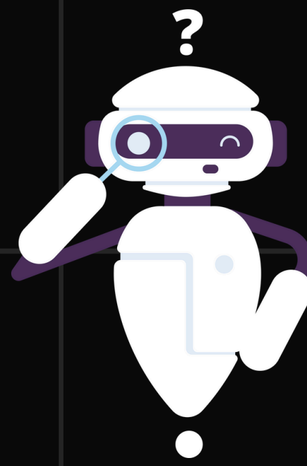
- AI systems cannot generate knowledge not derived from their training human-created content
- Novel combinations ≠ novel insights
- AI systems are fundamentally tools of huma expression

# Prompt Engineering

Reveals the persistent centrality of human Intelligence in AI systems



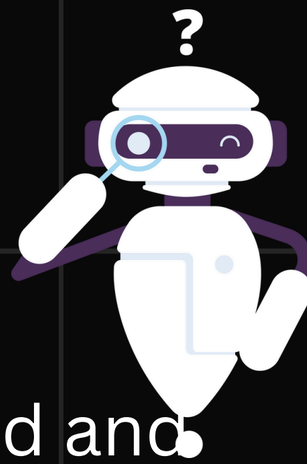
# Prompt Engineering



It is a **Craft**

- The craft of formulating inputs to AI systems to elicit desired outputs
- It is the art and science of giving instructions to AI models that produce valuable, accurate, and appropriate responses.
- It is one of the clearest demonstrations that artificial intelligence remains fundamentally dependent on human intelligence.

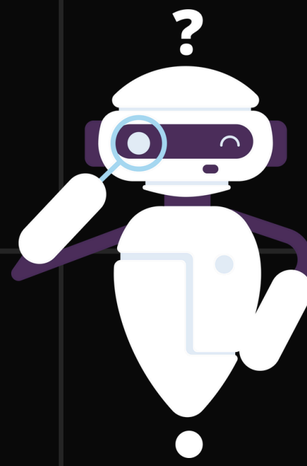
# Prompt Engineering -2



The **prompt engineer** must:

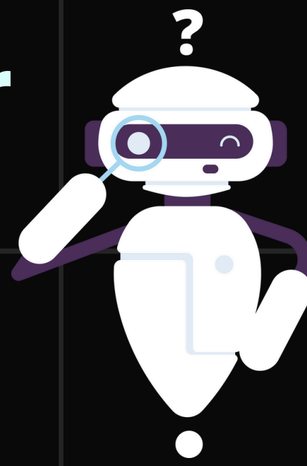
- possess deep understanding of both the domain being explored and the quirks of the AI system being used,
- anticipate how different phrasings might trigger different patterns in the model,
- know when to be specific and when to leave room for the model's pattern-matching capabilities.
- understand how to break complex problems into manageable steps.

# Human In the Loop



properly structuring prompts can dramatically improve the performance of AI systems on reasoning tasks

# Example: me Vs experienced prompt Engineer



“Write about climate change”

Vs

"Analyze the economic implications of transitioning to renewable energy sources in developing nations, considering both short-term implementation costs and long-term benefits”

Addressing the Climate Crisis

NT write about climate change

## Climate Change: Understanding Our Changing Planet

Climate change refers to long-term shifts in temperatures and weather patterns, primarily caused by human activities, especially the burning of fossil fuels. These activities release greenhouse gases like carbon dioxide and methane into the atmosphere, trapping heat and causing global temperatures to rise.

### Key Impacts

Climate change is already affecting our planet in numerous ways:

- **Rising temperatures**: Global average temperatures have increased by about 1.1°C since pre-industrial times.
- **Extreme weather events**: More frequent and intense heat waves, droughts, hurricanes, and heavy rainfall.
- **Sea level rise**: Oceans are rising due to thermal expansion and melting ice sheets and glaciers.

ble Energy Transition Economics in Developing Nations

NT Analyze the economic implications of transitioning to renewable energy sources in developing nations, considering both short-term implementation costs and long-term benefits

## Economic Implications of Renewable Energy Transition in Developing Nations

The transition to renewable energy in developing nations presents a complex economic landscape with significant short-term challenges but potentially transformative long-term benefits.

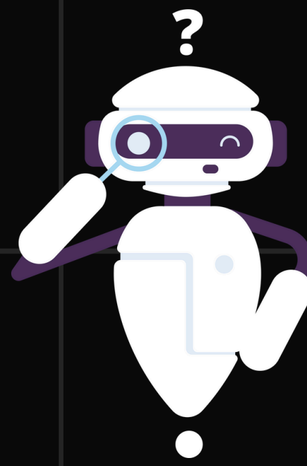
### Short-Term Implementation Costs

**1. Capital Investment Requirements**

Developing nations face substantial upfront costs for renewable infrastructure. Solar farms, wind turbines, and hydroelectric facilities require significant capital that may strain limited government budgets or necessitate international financing.

**2. Technical Expertise and Capacity Building**

# Human In the Loop



The difference in quality comes not from the AI suddenly becoming "smarter," but from my human intelligence better directing the AI's capabilities.

The knowledge about how to structure the question—what factors are relevant to consider, what timeframes matter, what perspective might be valuable—all come from human expertise.

In professional contexts, organizations would hire prompt engineers who are specialists: understand both the domain knowledge and technical limitations of AI systems and develop prompts that: Break complex tasks into manageable steps, provide relevant context and constraints, specify the format and tone of desired outputs, implement guardrails against common AI failures

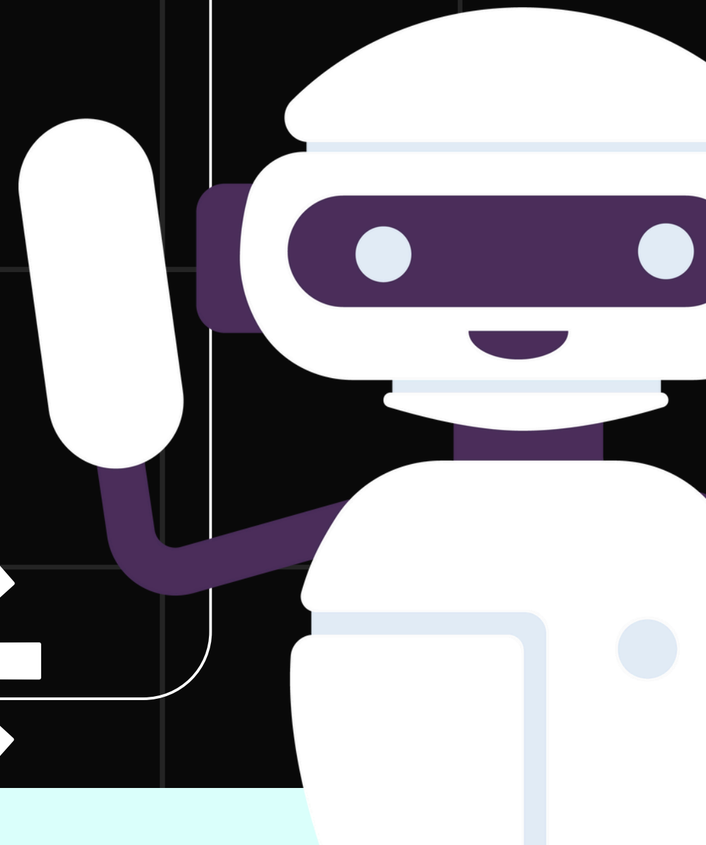
# IA beyond AI: Intelligence Augmentation

**Field independent**

- Does not matter if it is in medicine, law, design, programming, and other fields

**IA>>>>>>>>AI**

- The most effective AI applications
- Human expertise guides the AI, evaluates its outputs, and integrates those outputs into larger workflows and knowledge structures.

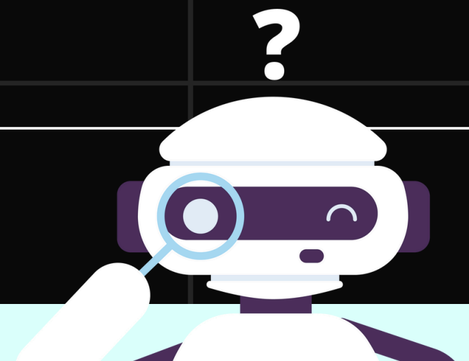


# AI or IA: Value Encoding

## AI Systems Embed Human Values (and baises)

- Trained on data selected by humans
- Designed according to objectives determined by humans
- Deployed in contexts chosen by humans

At each step, values (human values and biases) are implicitly or explicitly encoded



# AI or IA: Value Encoding

## AI Systems Embed Human Values (and baises)

- AI systems trained on human-created content inevitably absorb and reflect the biases, assumptions, and worldviews embedded in that content.
  - Example: an AI trained on the internet will inevitably reflect the patterns of thought (both enlightened and prejudiced) from online discourse.
- This presents both ethical and epistemological challenges.
  - Ethical Consideration: how AI systems might amplify existing social biases or create new forms of discrimination.
  - Epistemological Consideration: a recognition that AI systems do not offer an "objective" view of reality, but rather a statistical aggregation of human perspectives, complete with all their limitations and blind spots.

# AI or IA: Value Encoding

# The Unique Value of Human Intelligence

What aspects of human intelligence remains valuable (possibly irreplaceable)

- Contextual Understanding
- Moral Agency
- Creative Vision
- Meta-cognition

# The Unique Value of Human Intelligence

1. **Contextual Understanding**

- Rich, embodied understanding from lived experience
- Grasp of nuance, context, and implied meaning
- Judgment about when rules apply and when they don't
- Distinguishing meaningful patterns from mere correlations

# The Unique Value of Human Intelligence

## 2. Moral Agency

- Capacity to make value judgments
- Taking responsibility for actions
- Navigating ethical dilemmas
- Feeling the weight of conscience
- Experiencing the lived reality of moral responsibility

# The Unique Value of Human Intelligence

## 3. Creative Vision

- Imagining what does not yet exist
- Questioning fundamental assumptions
- Innovation driven by purpose rather than pattern-matching
- Fundamental reconceptualizations of problems and possibilities

# The Unique Value of Human Intelligence

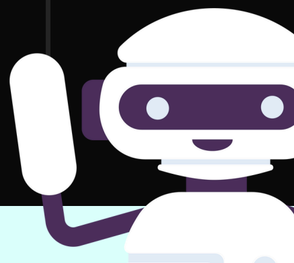
## 4. Meta-cognition

- Thinking about our own thinking
- Reflecting on cognitive processes
- Recognizing limitations
- Adapting approaches
- Questioning assumptions
- Seeking additional perspectives

# Responsibility in the Age of AI

Now that we have established the dependence of AI on human Intelligence, we need to define **Human Responsibility**.

- Technical responsibility
  - Quality and safety of systems
  - Robustness against manipulation
  - Appropriate safeguards
- Epistemic responsibility
  - Evaluating quality and accuracy of AI outputs
  - Critical thinking about AI-generated content
- Moral responsibility
    - Consequences of AI deployment
    - Both intended and unintended effects

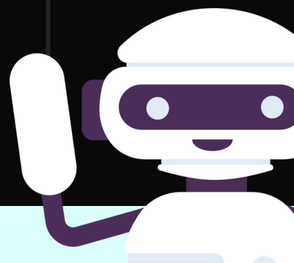


# Responsibility in the Age of AI

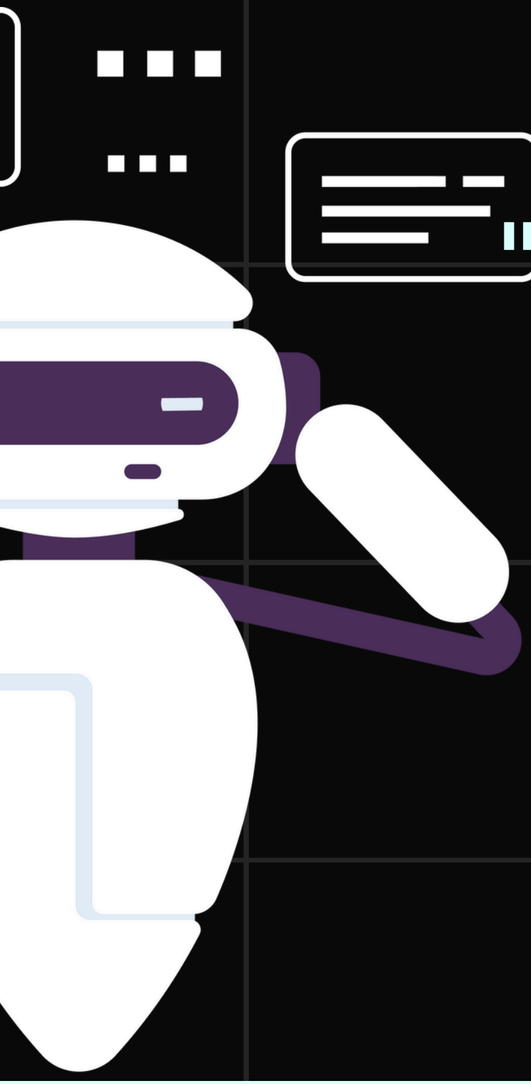
## Across Contexts

**The delegation of tasks to AI does not entail the delegation of responsibility**

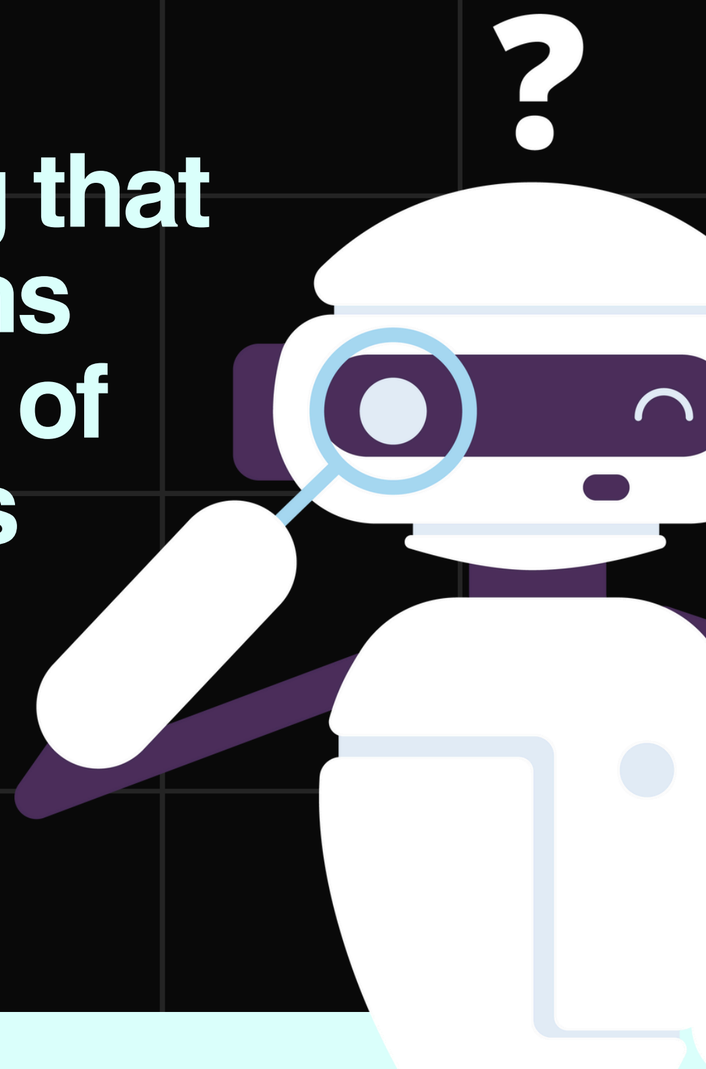
- **In research:** Integrity and validity of findings
- **In education:** Evaluating genuine student learning
- **In governance:** Ensuring systems serve the public good
- **In theology and ethics:** Grounding discussions in enduring values



# AI or IA



"The power lies in recognizing that artificial intelligence remains fundamentally an extension of human intelligence, not its replacement."



# Thankyou

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