World Organisation for Animal Health
Founded as OIE

CityU
香港城市大學
City University of Hong Kong

In Veterinary Animal Health and Communication

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WOAH Regional Workshop for Focal Points of Communication in Asia and the Pacific
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What if machines could think like us?

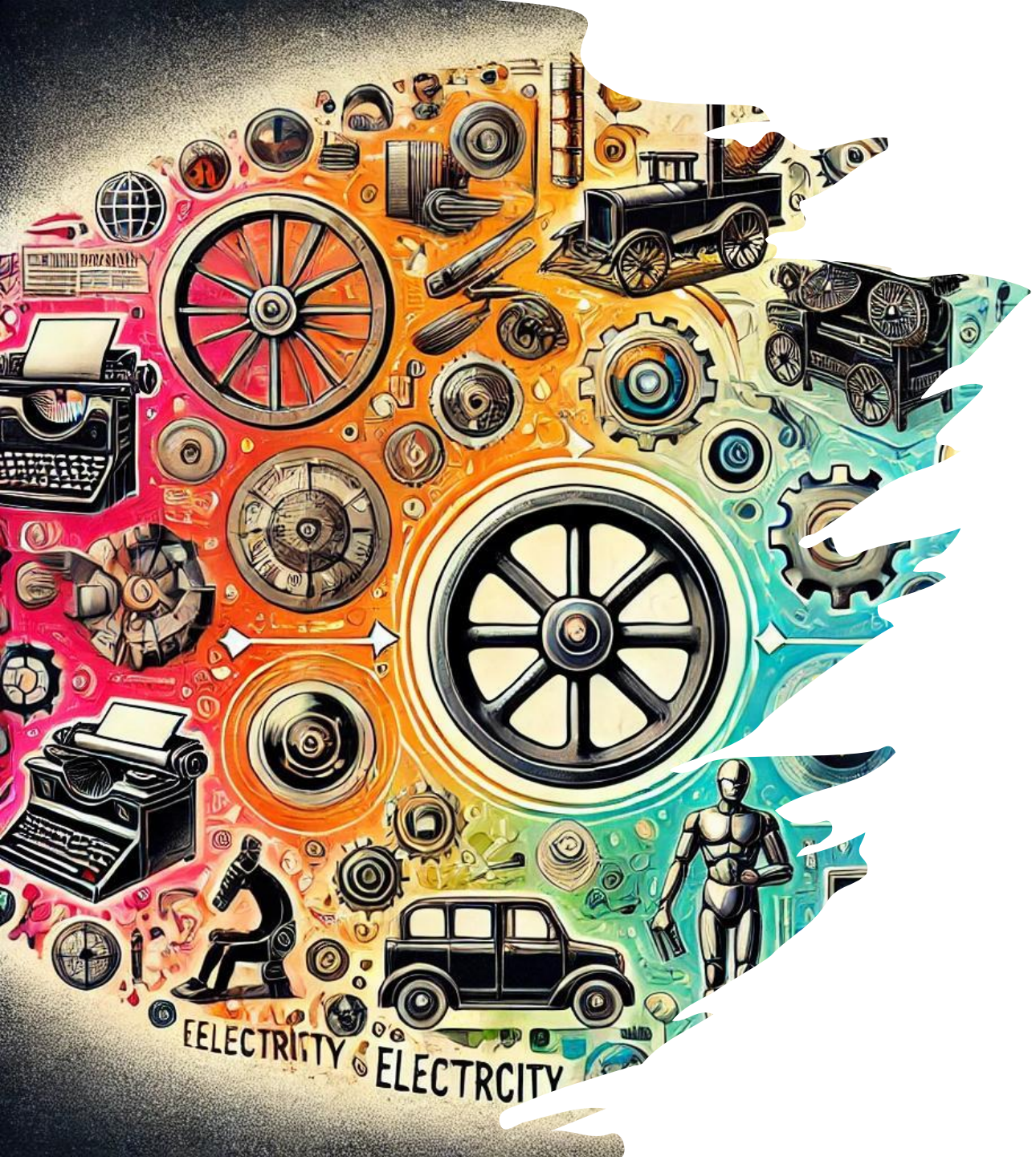
Historical content

- Technological innovations have often been met with controversy.
- The train, car, radio, TV, internet, a examples of innovations that controversy.
- Significant industrial revolutio hard to recognize while living them.

2022-2024 is a turning point for humanity

The Origins of AI: Where It All Began

- **Ancient Contributions**:
  - Greek - Logic and Algorithms
  - Arab - Mathematics
- **13th Century**:
  - Ramon Llull proposed automating knowledge and reasoning processes in “Ars Magna”.
- **Early Mechanical Inspirations**:
  - Devices like the Jacquard loom (1804) and Babbage’s Analytical Engine (1837).

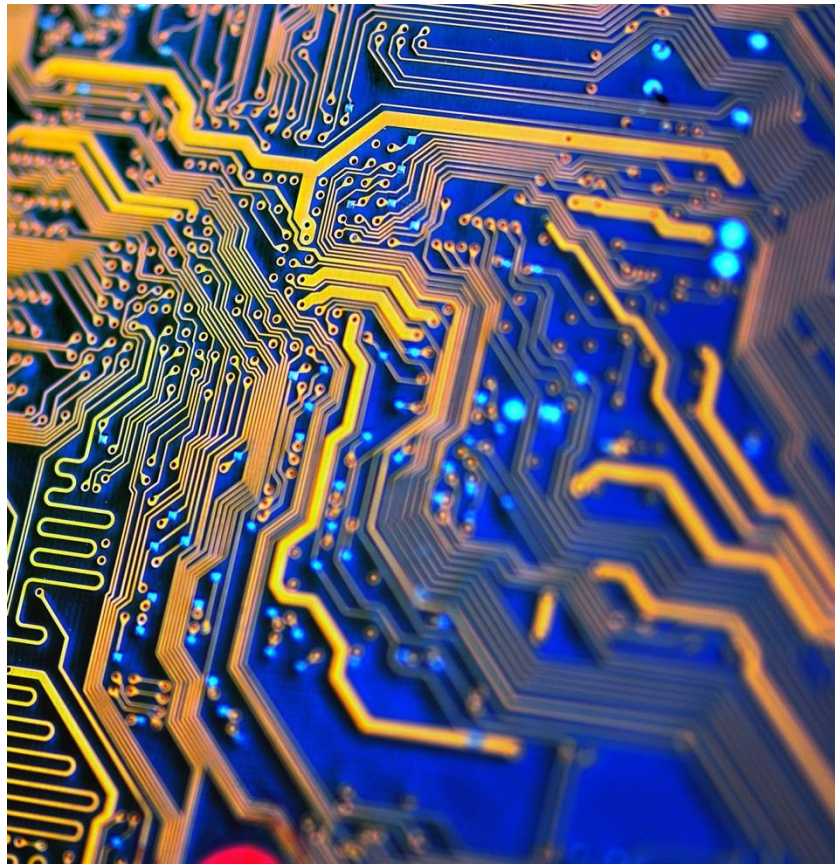


AI Milestones: A Journey Through Time

- **1956**: AI concept introduced at the Dartmouth Conference (Alan Turin).
- **1966**: Eliza, the first chatbot, created.
- **1996**: IBM’s Deep Blue defeated chess champion Garry Kasparov.
- **2002**: Roomba robot introduced AI into homes.
- **2014**:
  - AI passed the Turing Test.
  - Rise of virtual assistants like Siri, Alexa, and Google Assistant.
- **2016:** AlphaGo defeated Lee Sedol in Go
- **2022**: Explosion of Generative AIs, marked the AI era's arrival.

What is Artificial Intelligence (AI)?

- AI is the simulation of human intelligence by machines.
- AI encompasses
    - **Learning**: Acquiring knowledge from data.
    - **Reasoning**: Problem-solving and decision-making.
    - **Adaptation**: Self-correction and improvement.
- Natural Language Processing (NLP) is AI's ability to understand, interpret, and generate human language (chatbots, translation tools).
- Large Language Models (LLMs) are advanced AI systems trained on vast datasets to perform complex language tasks (ChatGPT)



Applications of AI in Everyday Life

- **AI in Healthcare**: AI-assisted diagnostics, and virtual health assistants.
- **AI in Education**: Personalized learning platforms, and ChatGPT in education.
- **AI in Entertainment and Content Recommendations**: Netflix, Spotify, and more.
- **AI in Finance**: Fraud detection and Algorithmic trading.
- **AI in Customer Service and Support**: Chatbots and automated call centers.
- **AI in Transportation**: Self-driving cars and route optimization.
- **AI in Retail**: Inventory forecasting and personalized marketing.
- **AI in Home**: Smart devices and assistants.

The AI Era (2022–2024)

Why is this a Turning Point?

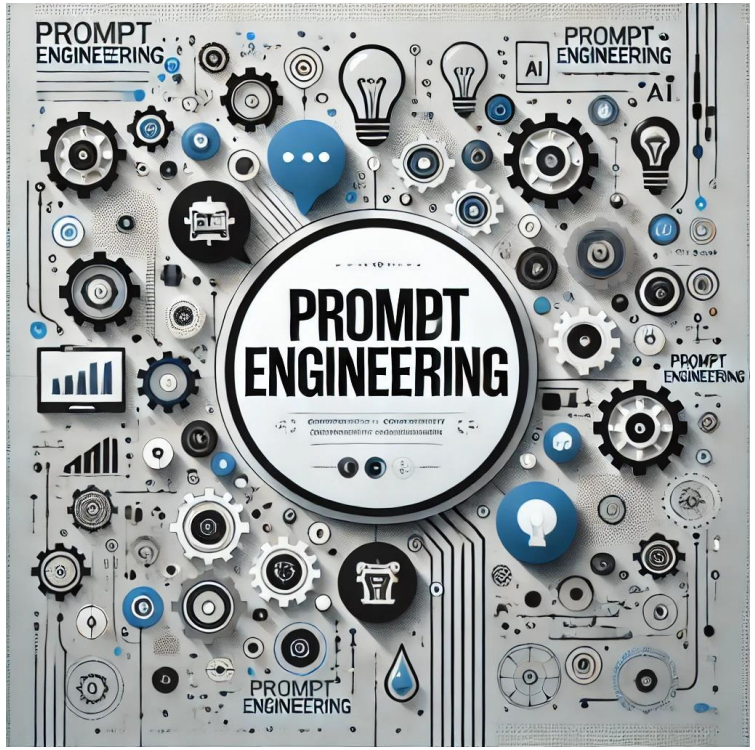
- AI's potential to replace the equivalent of 300 million jobs.
- Increased reliance on AI for efficiency in industries like healthcare, education, and logistics.

What’s Next?

- AI isn't replacing humans; it’s a tool for those who adapt and innovate.
- A divide may emerge between AI adopters and non-adopters.

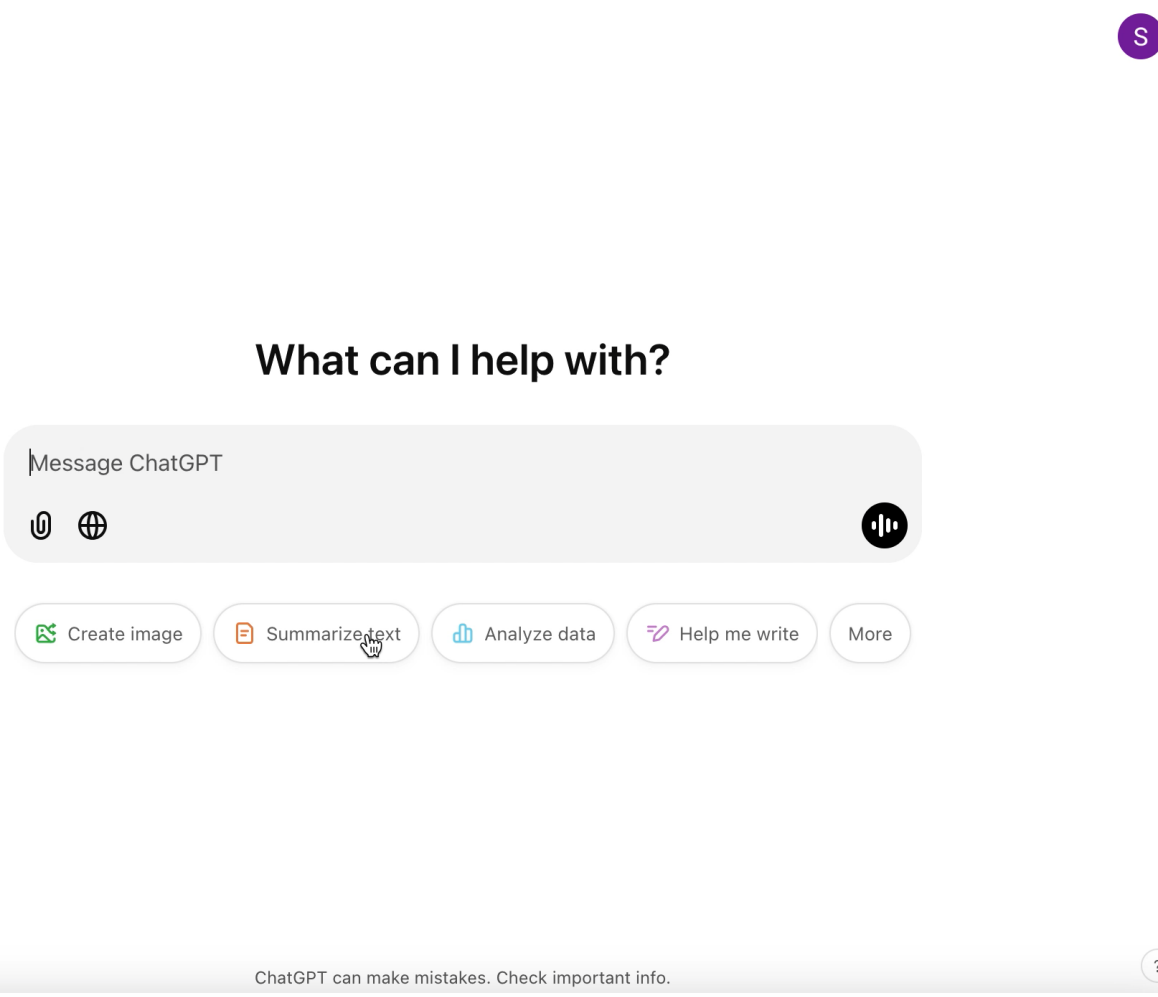
Harnessing AI: The Power of Prompt Engineering

- **Why It Matters**:
  - Improves accuracy, relevance, and usefulness of AI outputs.
  - A critical skill for leveraging AI in complex problem-solving.



Be specific	Avoid vague prompts. • Example: "What are the symptoms of equine colic in foals?"
Structure step-by-step	Use clear instructions or delimiters. • Example: "Step 1: List diagnostic tests. • Step 2: Explain treatment rationale."
Request formats	Specify the desired output style. • Example: "Provide a summary with pros and cons of each option."
Iterate and Refine	Tweak prompts to improve responses. • Initial: "What are next steps?" → Refined: "What are the diagnostic steps for a lethargic dog showing vomiting?"
Ask for reasoning	Encourage stepwise explanations. • Example: "Explain how you prioritized these diagnostic tests."

- **Common Pitfalls**:
  - **Vagueness**: *"What is AI?"* vs. *"Define AI and give 3 examples of its applications in medicine."*
  - **Overloading**: Asking too many questions in one prompt. Break it into smaller steps.



Prompt engineering transforms AI from a basic tool into a precision instrument for innovation.

How AI can be used for public health surveillance?

Enhanced Data Collection:

- AI integrates diverse sources like social media, environmental data, and keyword searches.
- **Example**: Social media monitoring in India detected dengue trends by analyzing tweets on symptoms and prevention.

Early Outbreak Detection and Warning:

- Real-time anomaly detection from news, social media, and health records.
- **Example**: GPHIN identified SARS in 2002 before traditional systems flagged it.

Prediction and Trend Analysis:

- AI models predict disease spread using time series and external variables.
- **Example**: CDC's FluSight uses AI to forecast influenza trends with data like search activity and weather.

Simulation and Response Planning:

- Agent-based simulations evaluate "what-if" scenarios for public health interventions.
- **Example**: ACEMod simulated influenza outbreaks in Australia, testing vaccination strategies.

Syndromic and Pre-Syndromic Surveillance:

- AI detects known symptoms (syndromic) and novel patterns (pre-syndromic) in unstructured data.
- **Example**: ProMED-mail flagged early signs of H1N1 through hospital reports.

Communication for Public Engagement

- AI-powered tools like chatbots and social media algorithms engage the public with tailored health messages, combating misinformation.
- **Example**: WHO's chatbot on WhatsApp provided COVID-19 updates and corrected misinformation, ensuring accurate public understanding.

Animal Health awareness leveraged through AI

Chatbots:

- AI-powered chatbots can answer public queries, provide health advice, or guide users to resources.
- **Example**: WHO's chatbot on WhatsApp provided COVID-19 updates and fact-checked misinformation.

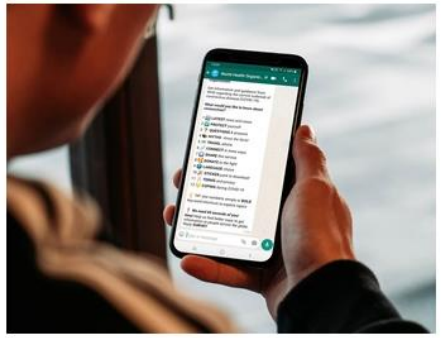
Personalized Messaging:

- AI can segment audiences based on demographics or behavior to deliver tailored health campaigns.
- **Example**: AI-generated vaccination reminders targeted specific high-risk groups during flu season.

Misinformation Detection and Correction:

- AI scans social media to identify and address public misconceptions about diseases or health interventions.
- **Example**: AI systems flag misleading tweets about zoonotic diseases and provide corrections.

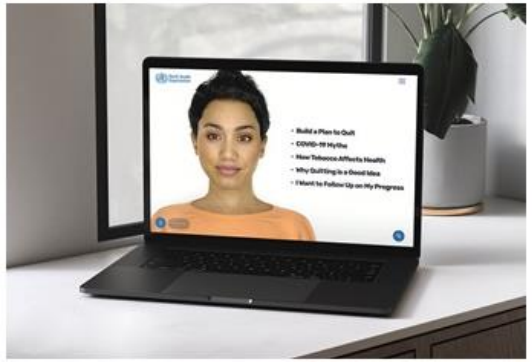
Creating new tools and channels to increase health awareness (World Health Organization)



WHO Health Alert Chatbots

Early in the pandemic, messaging platforms such as WhatsApp, Facebook Messenger and Viber created the WHO Health Alert Chatbot, which provides millions of people with the latest news and information on how to protect yourself and others from COVID-19, now available in over 19 languages. The WhatsApp chatbot alone has reached over 13.5 million people.

Access to health information through chatbots has been especially critical in low-income countries and fragile states where health systems are often too fractured or strained to meet all community needs during outbreaks.



World's first virtual health worker using AI

Recognizing the power of artificial intelligence (AI), WHO created the world's first virtual health worker, Florence, using AI technology to help the world's 1.3 billion tobacco users quit smoking. Florence uses AI to dispel myths about COVID-19 and smoking and helps people develop a personalized plan to quit tobacco. Around 60% of tobacco users worldwide say they want to quit, yet only 30% of them have access to the tools they need to take action.

World Health Organization

Hello, I'm Sarah, WHO's Digital Health Promoter

We're almost ready to begin. While I prepare the page for you, have a look at some of the topics I specialize in.

- Tobacco and E-Cigarettes
- Mental Health
- Healthy Eating
- Physical Activity

Interactive avatar to raise Animal Health Awareness

Questions?

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Founded in 1924

中华人民共和国农业农村部
Ministry of Agriculture and Rural Affairs of the People's Republic of China

Australian Government
Department of Agriculture, Fisheries and Forestry

From the People of Japan