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Artificial Intelligence and Environmental Regulation

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Interactive panel

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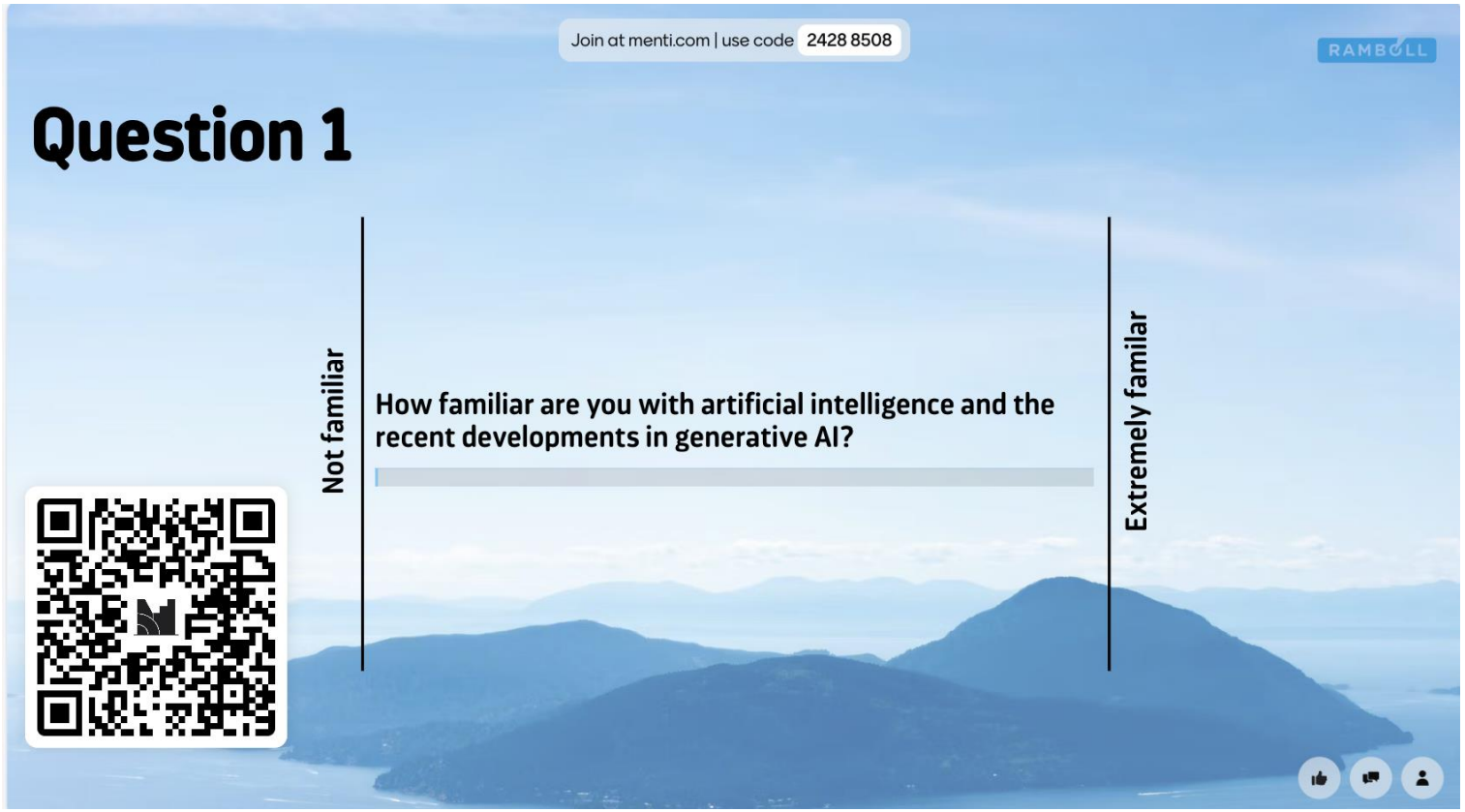
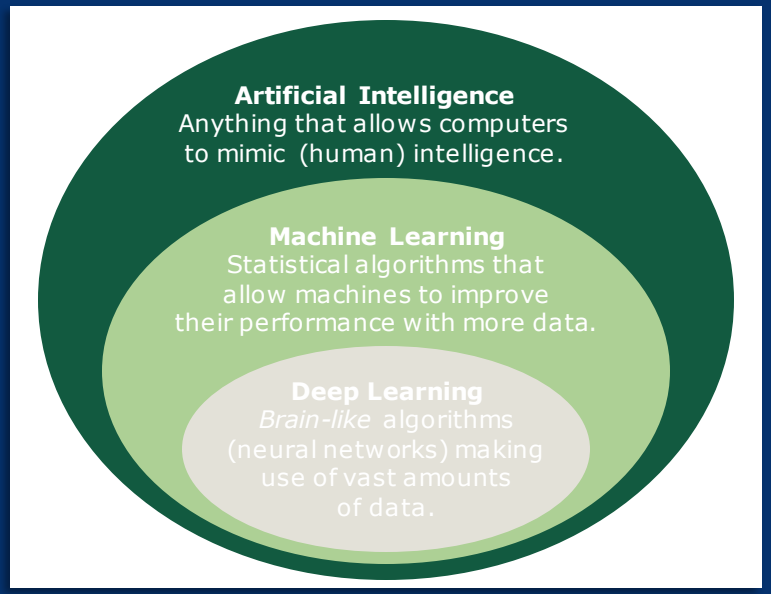


Ask questions at any time here

What is Artificial Intelligence?



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What is artificial intelligence?

Artificial Intelligence (AI) refers to the field of computer science and technology that aims to create intelligent machines that can perform tasks that would typically require human intelligence. AI involves the development of algorithms and models that enable computers and machines to analyze data, recognize patterns, learn from experience, and make decisions or predictions.

What is Artificial Intelligence?

- AI can be broadly classified into two domains:
  1) Analytical AI and
  2) Generative AI

- Originally, AI was classified based on the training data (e.g. in computer vision and natural language processing), however, models are starting to become multimodal and multipurpose

0) Artificial Intelligence

Machines performing tasks that are usually associated with human intelligence like recognizing, generalizing, inferring meaning, reasoning or learning.

Definition

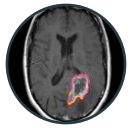
1) Analytical AI

AI models that can solve analytical tasks (e.g., classification, predication, recommendation) better than humans.

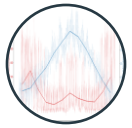
2) Generative AI

AI models that can create new content (e.g., text, images, code, audio) that can be on par with human creations.

Application


Tumor tissue detection in health care

Hate speech Detection on social media


Prediction of water/ energy consumption

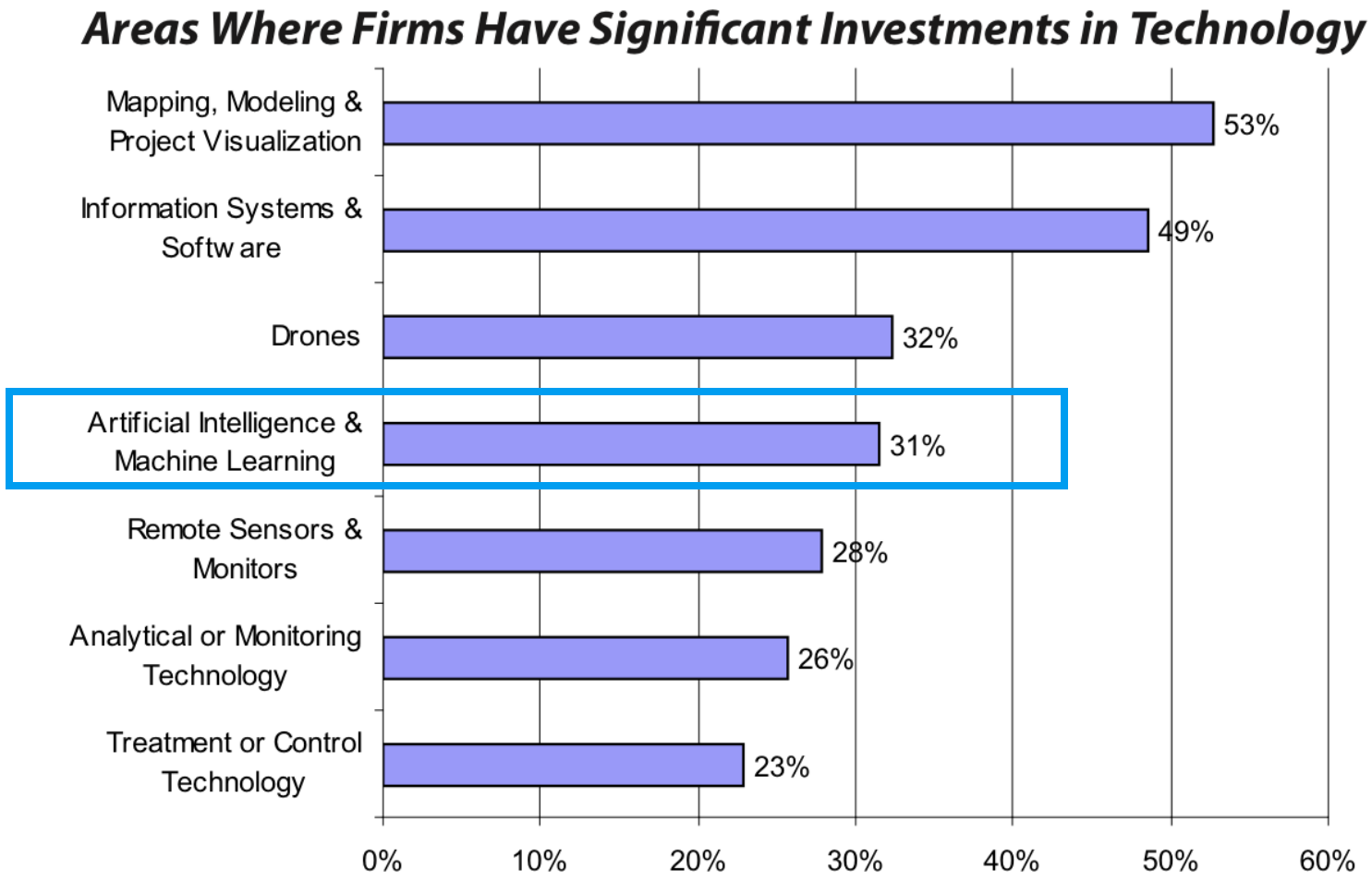
Text synthesis & Information retrieval

Image / Video / Audio generation

Code explanation & generation

The rise of AI

- The main reason for current growth of AI is the possibility to create larger AI models (increase model complexity) at lower costs as hardware and software are converging towards creating human level intelligence
- AI will be integrated into most if not all of our everyday tools and applications which



Source: 2023 Survey of Disruptive Technologies in the Environmental Industry, EBI, Inc. Question was:What is the level of investment that your company is putting into the following technologies. Percentage are categories rated by respondents as 'very significant' or 'significant' investment in technology in 2023: just the top 7 of 18 displayed.

Risks of GenAI

- Data leaks
- Data security
- Hallucinations
- Ethical use of AI
- Copyright issues
- Bias amplification
- Misinformation propagation
- Privacy concerns
- Deepfakes
- Lack of accountability

AI in the environmental Space

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Regulatory compliance

Improving regulatory compliance findings and report drafting using trained GPT models

I'm an auditor reviewing a site for environmental compliance. I identified an oil stain at a manufacturing facility located in Idaho, what regulatory citations should I call out in my findings

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In the state of Idaho, the handling of hazardous waste, including oil, is primarily regulated by the Department of Environmental Quality (DEQ) under the Idaho Hazardous Waste Management Act and the regulations adopted under it.

Here are a few potential regulatory citations that may apply to your findings:

1. Idaho Administrative Code IDAPA 58.01.05 (Water Quality Standards)
2. Idaho Administrative Code IDAPA 58.01.06 (Wastewater Rules)
3. Idaho Administrative Code IDAPA 58.01.07 (Solid Waste Management Rules)
4. Idaho Administrative Code IDAPA 58.01.08 (Ground Water Quality Rule)
5. Idaho Administrative Code IDAPA 58.01.11 (Individual/Subsurface Sewage Disposal Rules)
6. Idaho Administrative Code IDAPA 58.01.18 (Recycled Water Rules)
7. Idaho Code Title 39 Chapter 74 (Hazardous Waste Management Act)

Since oil leakage may seep into the soil and end up near a water source, it can pose a risk to the environment (soil, water, air), thus, these regulations and rules may be relevant.

Further, compliance with federal regulations, most importantly the Resource Conservation and Recovery Act (RCRA) which is administered by the Environmental Protection Agency (EPA), might be needed.

Please consult a legal expert or the DEQ to better understand the citations specific to your case. Regulations can vary widely based on specifics, and these specific state or federal agencies should provide more accurate and precise guidance.

Polls and Q&A

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