Generative AI: Definitions and Overview

Generative Artificial Intelligence (AI) is a subset of AI that enables machines to create new content such as images, videos, and texts. Language Models (LLMs) are a type of machine learning models trained on large amounts of text data. GPT (Generative Pre-trained Transformer) is a type of LLM developed by OpenAI and widely used for natural language generation tasks.

by Nick Scott
Roles of ChatGPT

1. Language Teacher
   Use ChatGPT to assist Spanish speakers to learn English, providing meaning explanations and practice exercises.

2. Editing Translator
   Use ChatGPT to rewrite academic articles in easy-to-understand language and translate into other languages for better impact.

3. Risk Assessor
   ChatGPT can help evaluate potential risks regarding a research study, taking ethical considerations into account.

4. Critical Friend
   Use ChatGPT to test the validity of arguments regarding generative AI's impact on science communication.
ChatGPT Prompt Tips

Role-Based Prompts
Assign ChatGPT a role, such as a language teacher or personal motivator, to contextualize responses and increase relevance.

Conversational Prompts
Engage with ChatGPT and adjust responses by requesting changes, improvements, or clarifications while encouraging polite conversation.

Focused Prompts
Narrow the focus of ChatGPT's responses to support your areas of expertise, such as scientific publishing or risk assessment.
Use Cases of ChatGPT

1. **Opportunity Engine**
   Generate specific research methods or techniques to test a hypothesis.

2. **Co-Designer**
   Assist in the formulation of a research proposal by generating hypothesis and experiment designs.

3. **Content Strategist**
   Create a personal marketing launch plan for an academic article.
Generative AI Concerns

**Bias in Outputted Information**
Generative AI models could create outputs that include biases present in the training dataset.

**Credibility and Reputational Risk**
Disseminated outputs from generative AI might be fake or misleading, which could damage reputation and public trust.

**Data Privacy**
Inputted data in generative AI models could be used for malicious purposes or be accessed by unauthorized parties.

**Misuse for Misinformation and Disinformation**
Generative AI could be used to create fake news or content for malicious objectives.
ChatGPT Limitations

2021 Data Cut-Off
ChatGPT is only trained on data until 2021, so may not be familiarised with recent developments.

No Internet Access
ChatGPT is constrained by the availability of internet access.

Eager to Please and makes stuff up
ChatGPT might make up information if it doesn't know the answer, leading to inaccurate or misleading outputs.
## Generative AI Tools

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<th>AI chatbot</th>
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<td>- Generative AI will move from behind the scenes to the front line.</td>
<td>- Generative AI may provide new opportunities for scientific discoveries.</td>
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<td>- Generative AI will make voice assistants and voice search more intuitive.</td>
<td>- Jobs requiring AI knowledge will continue to expand.</td>
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<td>- Generative AI will enhance personalized advertising.</td>
<td>- Generative AI may open new options for businesses, such as customized marketing and personalization.</td>
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