

GENERATIVE AI



DEAF YOUNG
CODE

Project number : 2023-2-IT03-KA220-YOU-000179130



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Activity

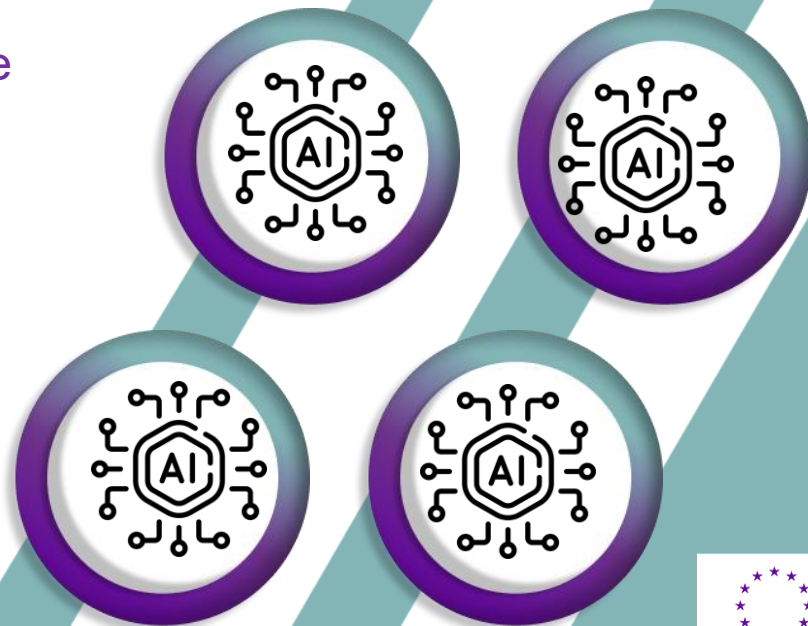
Video



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What is generative AI?

- **AI (Artificial Intelligence)** refers to the field of computer science that deals with the development of systems capable of performing tasks that normally require human intelligence.
- The main goal of AI is to create programs and systems that can think, learn and react to situations in a human-like way.



Why is it called “generative” AI?



The word generative indicates a unique capability of AI, which is related to the primary function of these AI models: the ability to generate new content autonomously.

Unlike other AI models that may recognize patterns or perform specific tasks, Generative AI is designed to create new, original content.



How can artificial intelligence help the hearing impaired and hearing people



Virtual assistants and chatbots:

- Virtual assistants, such as Siri, Google Assistant or Alexa, can interact via text so that people with hearing impairments can receive information or help without depending on sound.



Speech recognition and sign language translation:

- Speech recognition:
- Sign language translation: AI projects can help translate sign language into spoken or written language, facilitating communication between people who use sign language and those who are not familiar with it.

How It Works?

- Generative AI is built using machine learning models, especially neural networks.
- The most common architectures are:
- Transformers (used in models like GPT)
- Generative Adversarial Networks (GANs) for images
- Diffusion Models for realistic image generation
- These systems learn from large datasets and then generate new, similar outputs.



Examples of Generative AI Tools

- ChatGPT – generates human-like text and answers.
- DALL·E / Midjourney / Stable Diffusion – generate images from text prompts.
- Suno / Mubert / AIVA – create music.
- Runway / Pika / Synthesia – produce videos.



Applications for Deaf

- **SignAll:** is an AI-based platform that uses video cameras and machine learning algorithms to translate sign language into written or spoken language.
- **Google's AI and TensorFlow.** Google has invested in research and development of technologies that can interpret sign language. Using neural networks and TensorFlow (an open-source development framework for machine learning).
- **Microsoft Azure AI.** Microsoft used the Azure AI platform to develop sign language recognition solutions. These solutions are based on machine learning and image processing to identify and translate signs into text language.

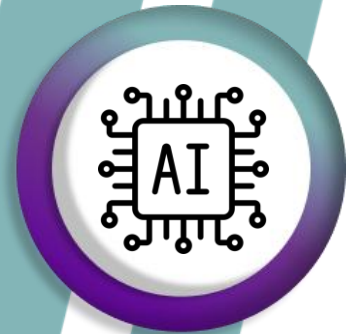


Applications for Deaf



- **Socia (Sign Language App)** is an AI-based app that uses the mobile phone's camera to detect sign language signs and translate them into a text or spoken language. The app uses image recognition and machine learning algorithms to recognize signs and translate them into a language accessible to those unfamiliar with sign language.

- **DeepASL** is a project based on deep neural networks (deep learning) that aims to recognize American Sign Language (ASL) signs and convert them into text or speech. It uses image processing and motion recognition techniques to understand user's gestures.



The Future of Generative AI



- More personalized AI assistants.
- Integration into daily tools (education, healthcare, business).
- Growth of AI regulation and ethics frameworks.
- Collaboration between humans and AI rather than competition.



Conclusion



Generative AI is transforming how we create, learn, and communicate. While it opens exciting possibilities, it also challenges us to use it responsibly and ethically.

The future of creativity is human
+ AI working together.



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Thank you for your attention!



Stay tuned for the next presentation!

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