



It's Not Magic: AI & Accessibility Tools

By Zephyr Rankin

09 June 2026

BEREC External Workshop on Accessibility of Electronic
Communications Services

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Presentation

For accessibility
and retention



Who Am I?



Zephyr Rankin



- Research & Instruction Librarian
- Liaison for STEM & Agriculture
- Accessibility expert for library-authored digital content

Contact me:

Zephyr.Rankin@proton.me



In This Workshop

1. Overview of artificial intelligence
 2. AI in accessibility tools
 - Use cases for AI-based accessibility tools
 - Common issues to look out for
 3. Balancing accessibility with AI ethics
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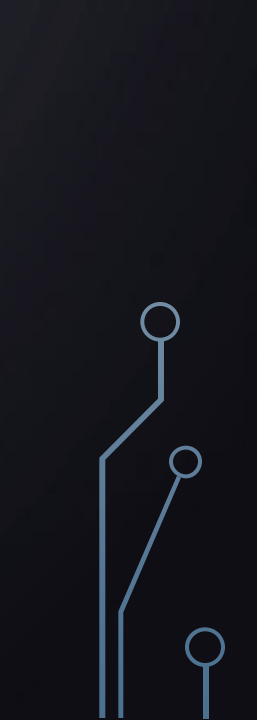
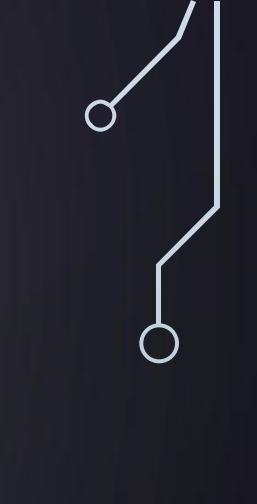

The background is a dark blue gradient. In the corners, there are white line-art illustrations of circuit boards or neural network connections. These lines are thin and connect to small white circles, resembling nodes or solder points. The top-left and bottom-left corners have more complex, branching patterns, while the top-right and bottom-right corners have simpler, more linear patterns.

What is Artificial Intelligence?



Defining AI

Artificial intelligence is a term that refers to all computer programs that perform tasks typically associated with humans.



Categories of AI

- Analytical AI
 - More specific dataset and uses
 - Observes patterns and makes predictions
- Generative AI
 - Large, complex datasets and general use cases
 - Use datasets to create output

The line between these categories is blurry

AI is Not Magic

While some generative AI tools mimic human output, they're complex algorithms, not brains, and therefore do not think or process information like humans do.

When using AI tools to analyze or create accessible content, remember to have it checked by a person.

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AI Accessibility Tools

AI Tools



Web/Document
Analyzers



Text
Generators



Image/Video
Generators

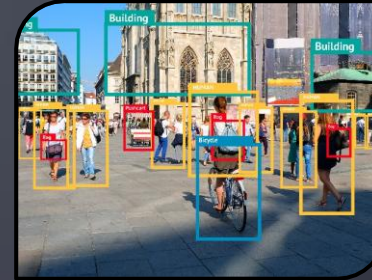


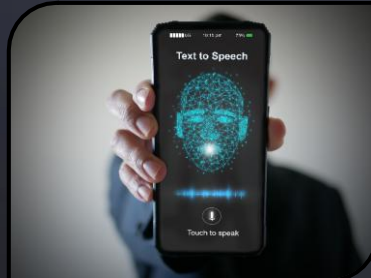
Image
Recognition



Facial
Recognition



Speech-to-
Text



Text-to-
Speech



AI
Translators



Health Alert
AI



AI
Assistants

Web & Document Analysis:



Use Cases

- Alternative text
- Captions & transcripts
- Contrast
- Heading levels
- Links
- Navigation

Some analyzers will alert for missing accommodations, while others can make automatic adaptations.


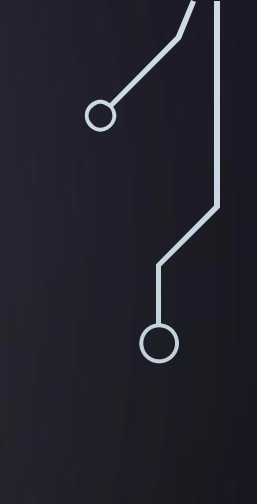
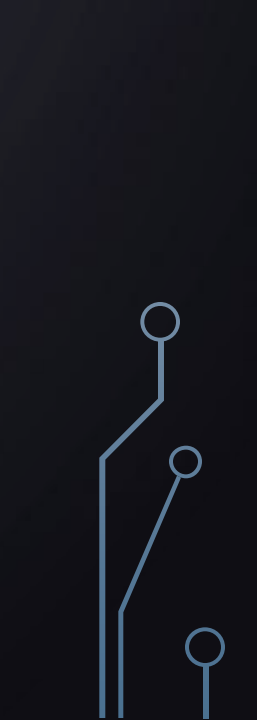


Web & Document Analysis: Common Issues

- Analyzers that alert for missing accommodations can't always see everything.
 - Automatic adaptations are usually using a different AI tool in the background, and are therefore prone to the same mistakes that we'll discuss on future slides.
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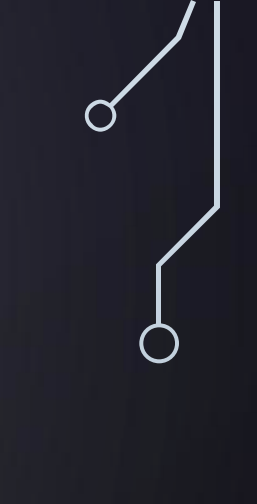
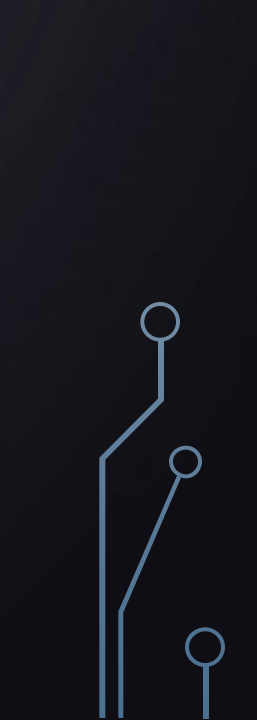


Text Generators: Use Cases

- Text summaries of long or complicated documents
 - Summaries or explanations of complicated concepts at lower reading levels
 - Assistance with communication and tone
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Text Generators: Common Issues

- Incorrect or inadequate information
 - Over-reliance
 - Bias in the AI (including language bias)
 - Privacy – pay attention to what the company does with the data you feed the AI, and be careful with what you let it access
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A decorative graphic consisting of white lines and circles, resembling a circuit board or neural network, is positioned in the top-left corner of the slide.

Image & Video Generators:

Use Cases

- Data visualization
- Generate images or video content
- Situational visualization for those with aphantasia



Image & Video Generators: Common Issues



- Inaccurate or nonsensical images and video
 - Bias in the AI
 - Output may not be accessible
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Image Recognition:

Use Cases


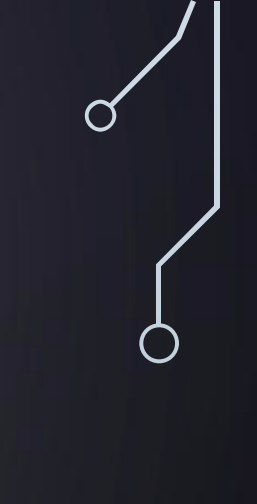
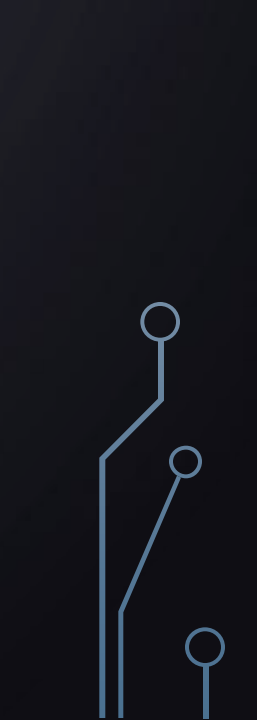

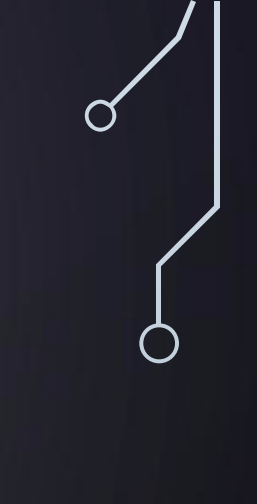
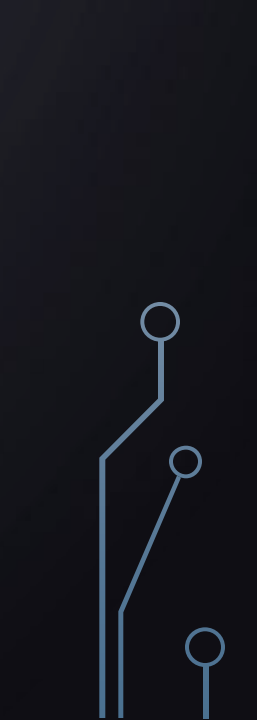
- Alternative text generation
 - Description of objects or surroundings
 - Optical Character Recognition (OCR)
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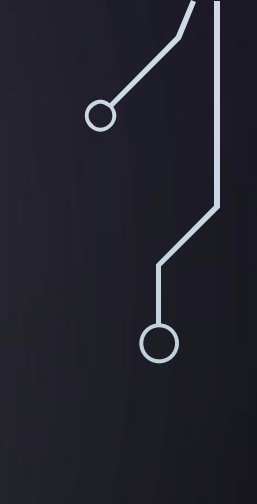
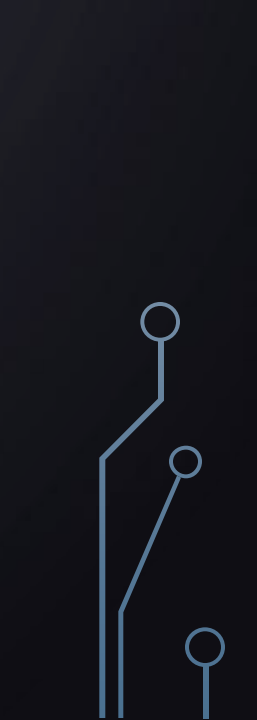


Image Recognition: Common Issues

- Nonsensical or unhelpful alt text
 - Inaccurate description of situational information
 - Errors in OCR text
 - Privacy
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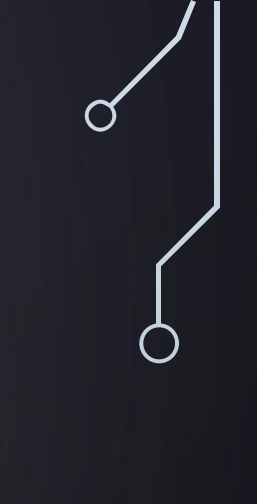
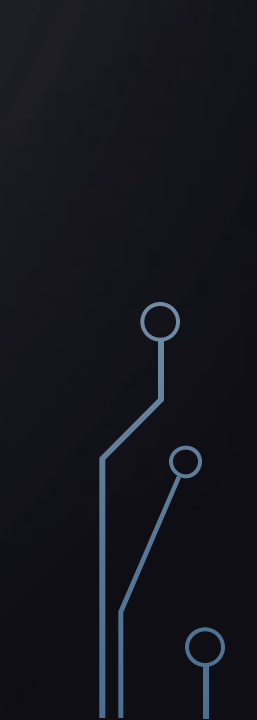


Facial Recognition: Use Cases

- Recognizing people
 - Navigation
 - Assistance with tone, facial expressions, and gestures in communication
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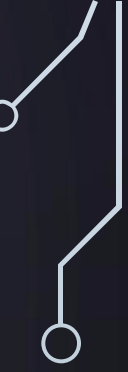
Facial Recognition: Common Issues

- Inaccuracies
 - Privacy!
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Speech-to-Text: Use Cases

- Captions and transcripts – some are even capable of multilingual captioning
 - Communication
 - Digital navigation
- 






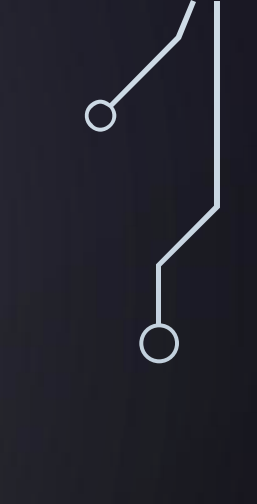
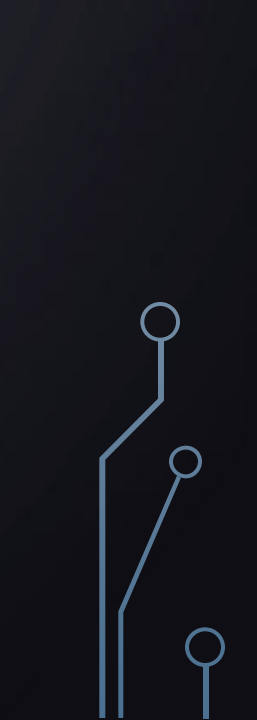
Speech-to-Text: Common Issues

- Inaccuracies
 - Bias (especially language bias)
 - Privacy
- 






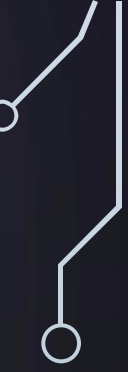
Text-to-Speech: Use Cases

- Communication
 - Digital navigation
 - Textless alternatives
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Text-to-Speech: Common Issues


- Inaccuracies, especially with specialized language (jargon, slang) or in underrepresented languages
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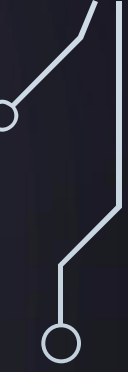




AI Translators:


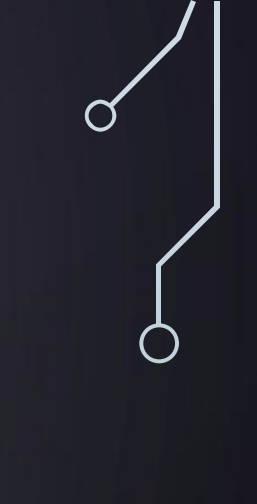
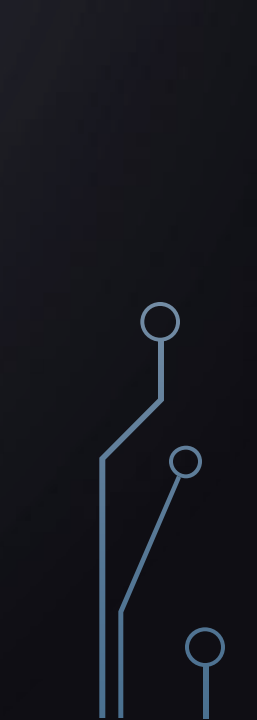
Use Cases

- Communication
 - Can include text-to-text, text-to-speech, speech-to-text, speech-to-speech, and even sign-to-text or sign-to-speech
- 





AI Translators: Common Issues

- Inaccuracies
 - Difficulty with jargon, slang, and nuance
 - Privacy
 - Over-reliance
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Health Alert AI

- Can alert for heart conditions, seizures, blood sugar fluctuations, and more
- Limited use cases outside of the medical field, but it's important to be aware of them

AI Assistants

- Can help with hands-free navigation, communication, and more
- Can be customized to users' specific needs, but that often comes at the cost of users' privacy


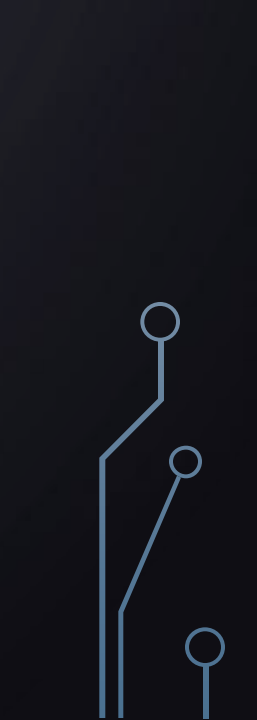
The background features a dark blue gradient with white circuit-like lines and nodes. These lines are concentrated along the left and right edges, with some extending into the central area. The nodes are small white circles at the intersections of the lines.

AI Learning Assistants: Use Cases

- Personalized learning strategies and timelines
- Instant, impersonal, and personalized feedback for learners



AI Learning Assistants: Common Issues

- Inaccuracies
 - Cognitive offloading
 - Privacy
 - May be either too personal (leading to emotional attachment) or too impersonal (leading students to “check out”)
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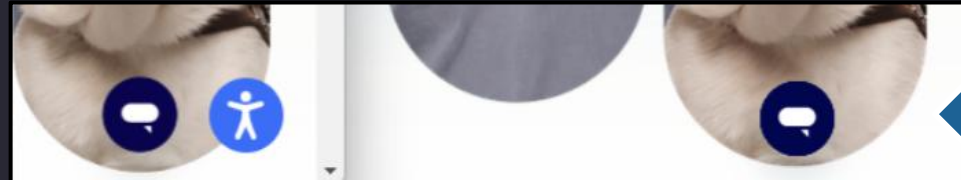
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Accessibility & AI Ethics

Privacy is at Risk

Accessibility as a smokescreen for surveillance

Jeff Nagy (2022) in “Autism and the making of emotion AI: Disability as resource for surveillance capitalism” discusses how a company’s tool for emotion recognition for autistic users was actually mining people’s information for marketing purposes.



The above image shows the same website open in two windows. One browser has no extensions; the other has a tracker-blocker. The accessibility widget is unavailable in the second browser because of the integrated trackers.

Screenshot taken 28 January 2025 on accessiBe.com

Privacy is a Right...

...and is protected by law.

- People deserve to make informed decisions about what happens with their personal data.
- Those who need or want to use accessibility tools should not have to sacrifice their personally identifying information.

Sun, 2023, Gaps, guesswork, and ghosts lurking in technology integration: Laws and policies applicable to student privacy.

Inaccuracies & Lack of Context

- AI is prone to mistakes, because it doesn't know things, it just replicates patterns.
- AI cannot have experience with context, customs, and culture.
- It has also been estimated that most Gen-AI models have only been trained on about 10% of non-English languages, and are known to prioritize English.

Bias

- AI replicates patterns found in its training data, which often reflect systemic bias.
 - One study found that AI image generators wouldn't create images of happy disabled people.
 - Speech-to-text struggles to understand people with disordered speech.
 - Generative AI tools have been shown to discriminate against people with non-white names or speech patterns in hiring and criminal profiling.

Over-Reliance

- Many people without extensive background knowledge will not instinctively recognize inaccuracies and bias, therefore misplacing their trust in the technology.
- Linguistic flattening, a.k.a. the “bot accent”
- Cognitive offloading: consistent AI use has been shown to decrease critical thinking and creativity.

Over Promises

Many of the currently-available AI tools are created by companies, who have a vested interest in getting you to purchase their product.

Watch out for big promises, especially those that can't be traced back to good research studies. They'll sell you on the idea of helping those with "limited resources," but the real solution to that problem is more resources.

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Thank you!

Future questions:

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