Honorlock

Webinar

AI to Improve DEI in Higher Education

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Topics we'll cover

- AI tools to improve DEI in online learning
- Problems AI can solve in higher education
- How to start the change process at your institution

AI Student Usage and Preparation

- Intentionality
- Accessibility
- Inclusivity
- Human Connection
- Future-Ready Workforce

Emotion AI

Understands human emotions based on writing, voice characteristics, body language, & facial expressions.

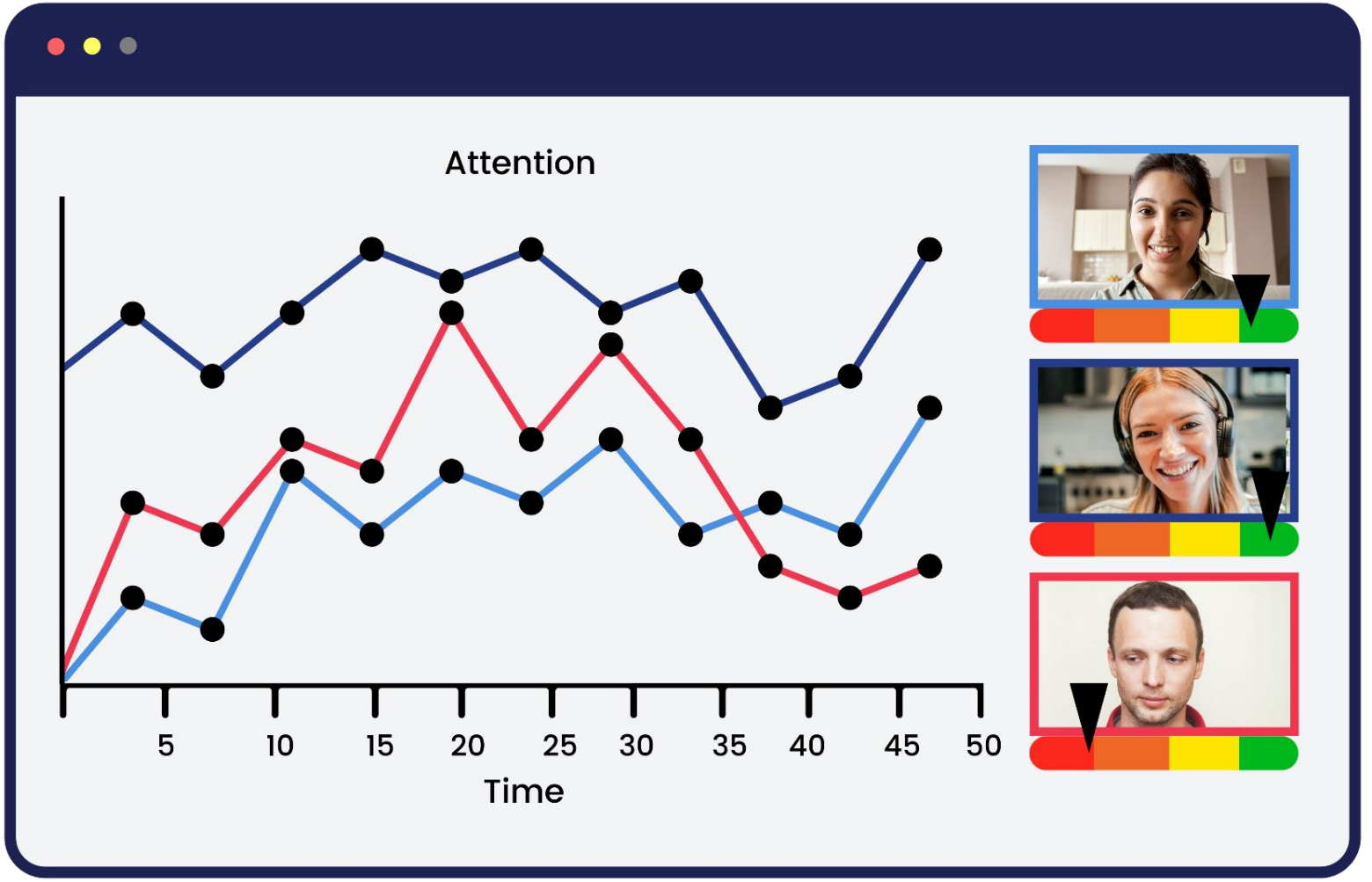
Text Emotion AI: matches words with emotions or uses machine learning to interpret the meaning & context in our writing.

Voice Emotion AI: associates vocal characteristics (pitch, volume, speed, etc.) with emotions.

Video Emotion AI: recognizes & interprets body language & facial expressions.

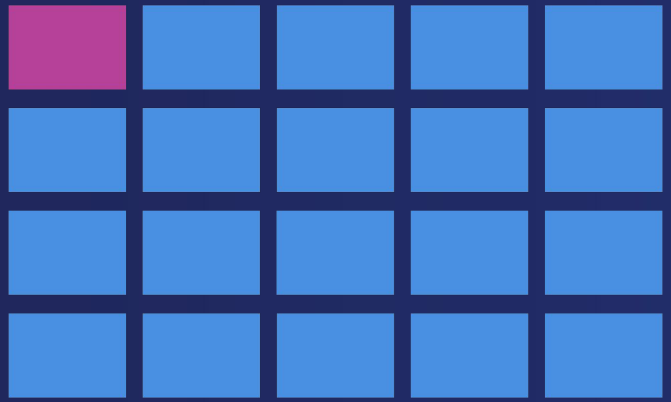
Emotion AI – Uses

Text Emotion AI	Voice Emotion AI	Video Emotion AI
Analyzing course feedback	Detecting interest disinterest during discussions	Identifying nonverbal cues
Identifying confusing topics in discussion posts	Identifying signs of stress during virtual presentations	Recognizing disinterest during course activities
Flagging bias language in course materials		Detecting test anxiety


Attention
5
10
15
20
25
30
35
40
45
50
Time

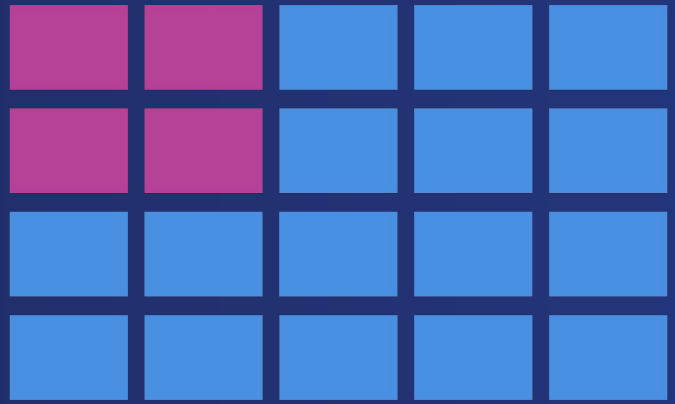
Voice assistants are about 95% accurate

1 in 20 words is wrong



Accuracy decreases with certain non-native accents

1 in 5 words is wrong



Source: The Accent Gap, 2021

Language-related AI

Voice assistants' accuracy decreases with accents

Non-native English speakers

- Approx. 30% higher rate of inaccuracies, *especially* Spanish & Chinese accents.

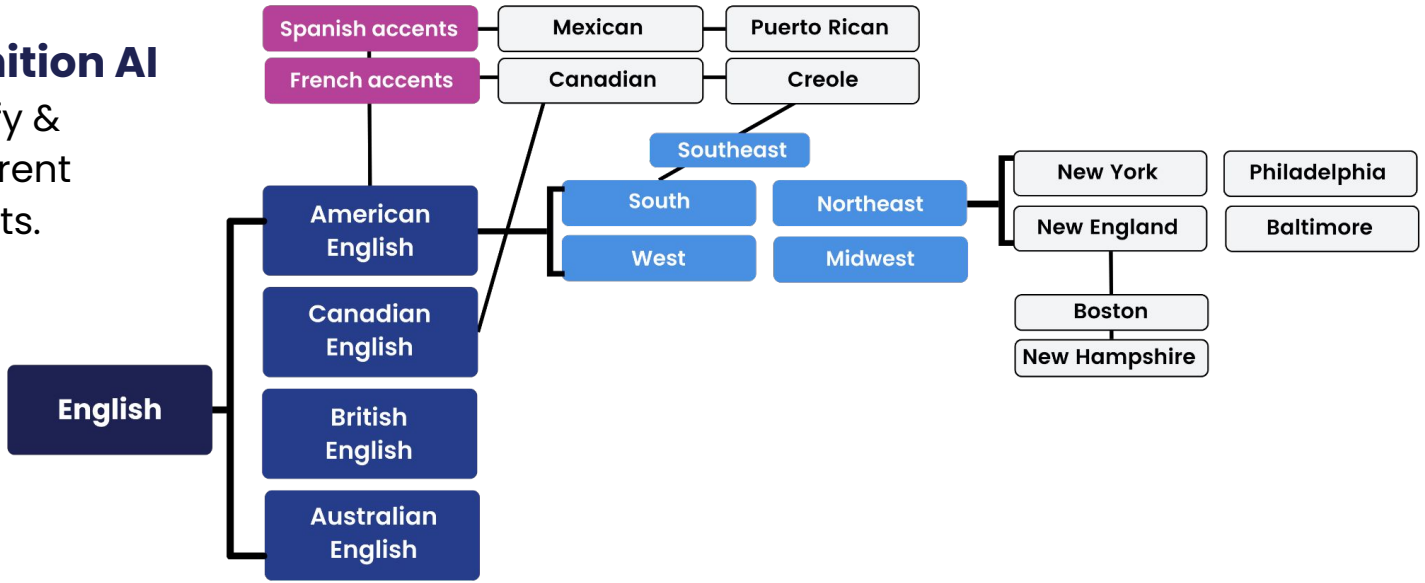
Native English speakers in America

- More accurate for Southern & Western accents compared to Eastern & Midwestern accents.

Source: The Accent Gap, 2021

Language-related AI

Accent recognition AI
Trained to identify & understand different accents & dialects.



Language-related AI

Localization AI

Automatically adapts content to specific dialects, regions, & audiences.

- Can be trained to provide contextual information based on cultures & preferences.

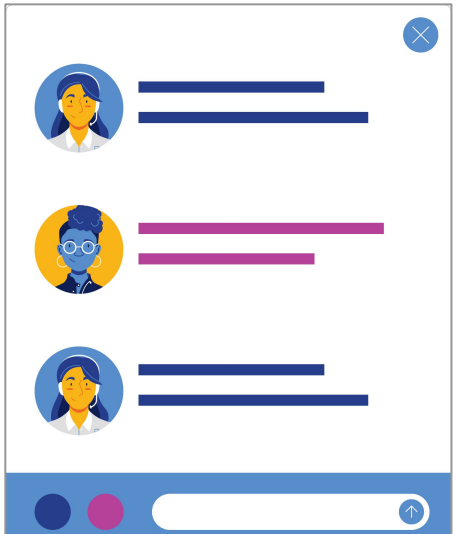
American English	British English
Localize	Localise
Fries	Chips
Soccer	Football
2/13/2024	13/02/2024

Language-related AI

Chatbots

Simulates human-like conversations, making it a valuable tool for learning & practicing language skills by offering:

- **Writing exercises & practice**
  - Flashcard-style tutoring for vocabulary, quizzes, matching synonyms & antonyms, paraphrasing.
- **Real-time feedback & edits**
  - Grammar, punctuation, style, syntax, etc.
- **Translations**
- **Interactive dialogues**



Large Language Models

LLMs understand, interpret, & generate human language by analyzing & learning from extensive datasets.

Example LLMs: GPT, RoBERTa, Gemini

Where are LLMs used?

- **Chatbots** (ChatGPT & Google Bard) - creating content, Q&A
- **Search engines** (Google & Bing) - categorizing results & intent
- **Social media** (Facebook & Instagram) - sentiment analysis
- **eCommerce** (Amazon): analyzing reviews & customer support

Large Language Models

Recent UPENN research indicates LLMs can accurately review written admissions-related essays for personal qualities.

- **Researchers analyzed over 300,000 college essays**
  - **Scored seven traits:**
    - Prosocial purpose (helping others)
    - Leadership
    - Learning
    - Goal pursuit
    - Intrinsic motivation
    - Teamwork
    - Perseverance
- **Trained RoBERTa (LLM) to recognize & evaluate those traits**

RoBERTa vs. GPT

Two cars with the same frame but different tires & suspensions for specific terrains.

- **RoBERTa** drives better in the city (understanding emotions & language nuances), but it can still drive on *some* off-road trails (creating content).

- **GPT** can navigate *some* city streets, but it's best for driving on any off-road trails.

Large Language Models

Research results & takeaways:

- **RoBERTa recognized specific personal qualities without bias**
  - Recognized personal qualities without showing bias towards race, gender, or socioeconomic status.
- **RoBERTa's predictions of the likelihood of graduating were as accurate as human reviewers**
- **LLMs should be used as a supplemental tool used with optimism & caution**
  - RoBERTa was effective, but AI isn't perfect (and neither are humans).

How to start the change process at your institution

Questions?

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