

# Microsoft AI for Accessibility Program



# AI for Accessibility

*Pushing the limits of what AI can do in accessibility to ensure global independence and inclusion in society for people with disabilities*

## Focus Areas:



Education



Employment



Community



Home



Learn more: [aka.ms/AlforAccessibility](https://aka.ms/AlforAccessibility)

# Azure Cognitive Services: Pre-Built

Uses an API call to embed the ability to see, hear, speak, search, understand, and accelerate decision-making into apps



**Vision**



**Speech**



**Language**



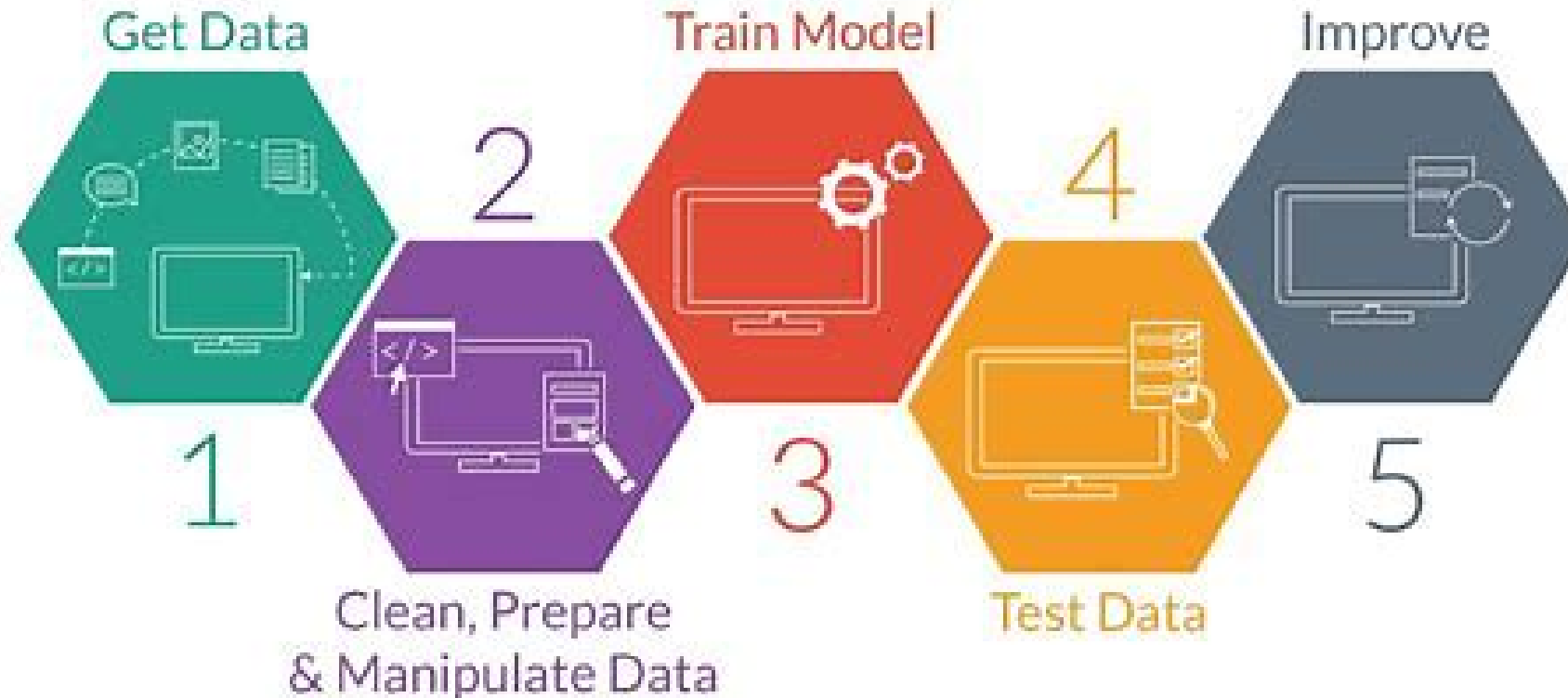
**Knowledge**



**Search**

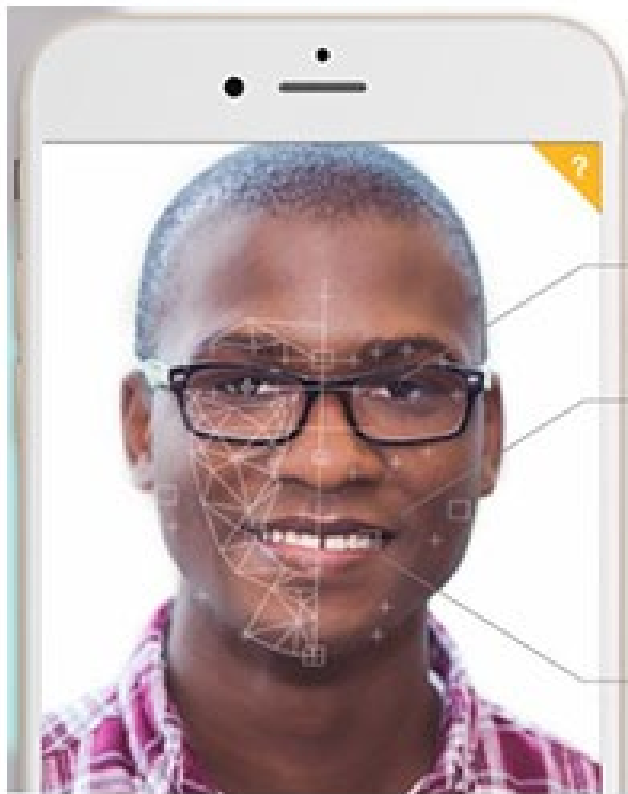
# Azure Machine Learning: Custom

Uses data to further refine and customize your project, allowing your solution to continue to learn and improve



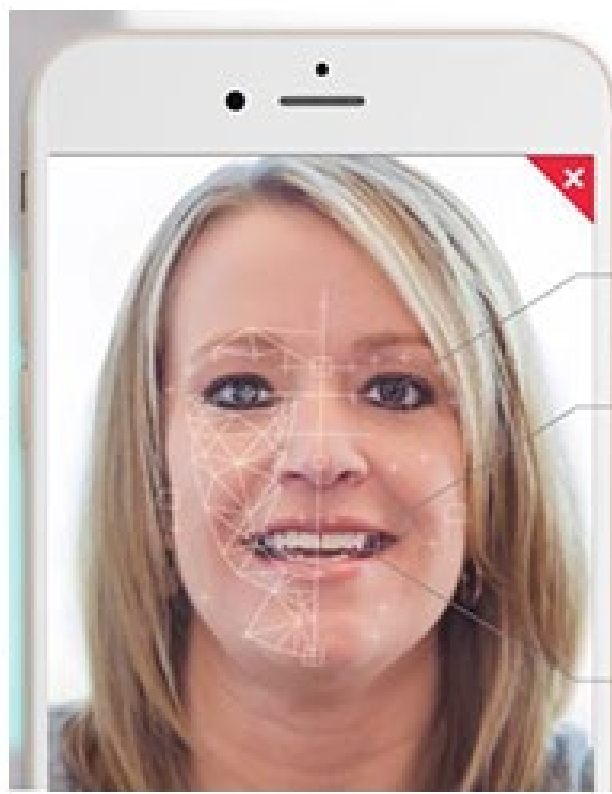
# Inclusive AI Design





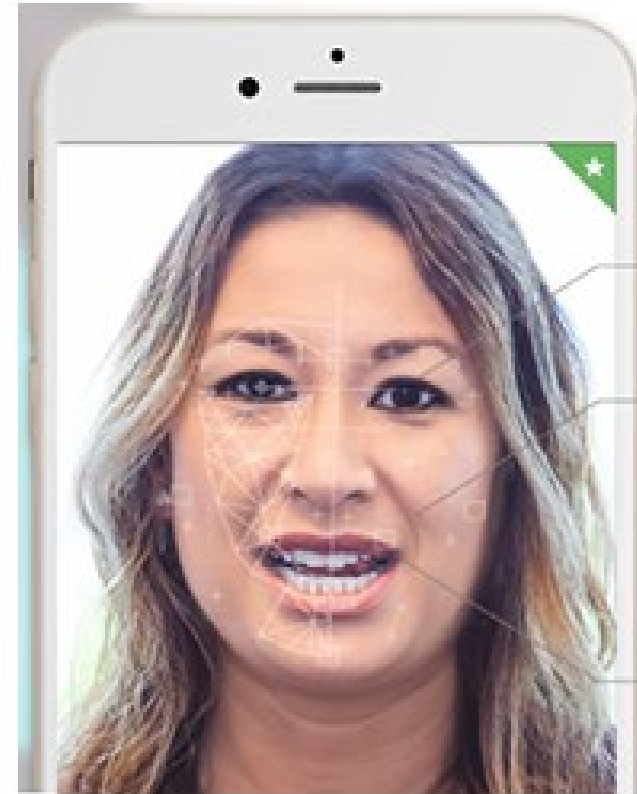
Emotion Facial Expression

Language Patterns Word Choice



Emotion Facial Expression

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Emotion Facial Expression

Language Patterns Word Choice

# A New Cautionary Tale

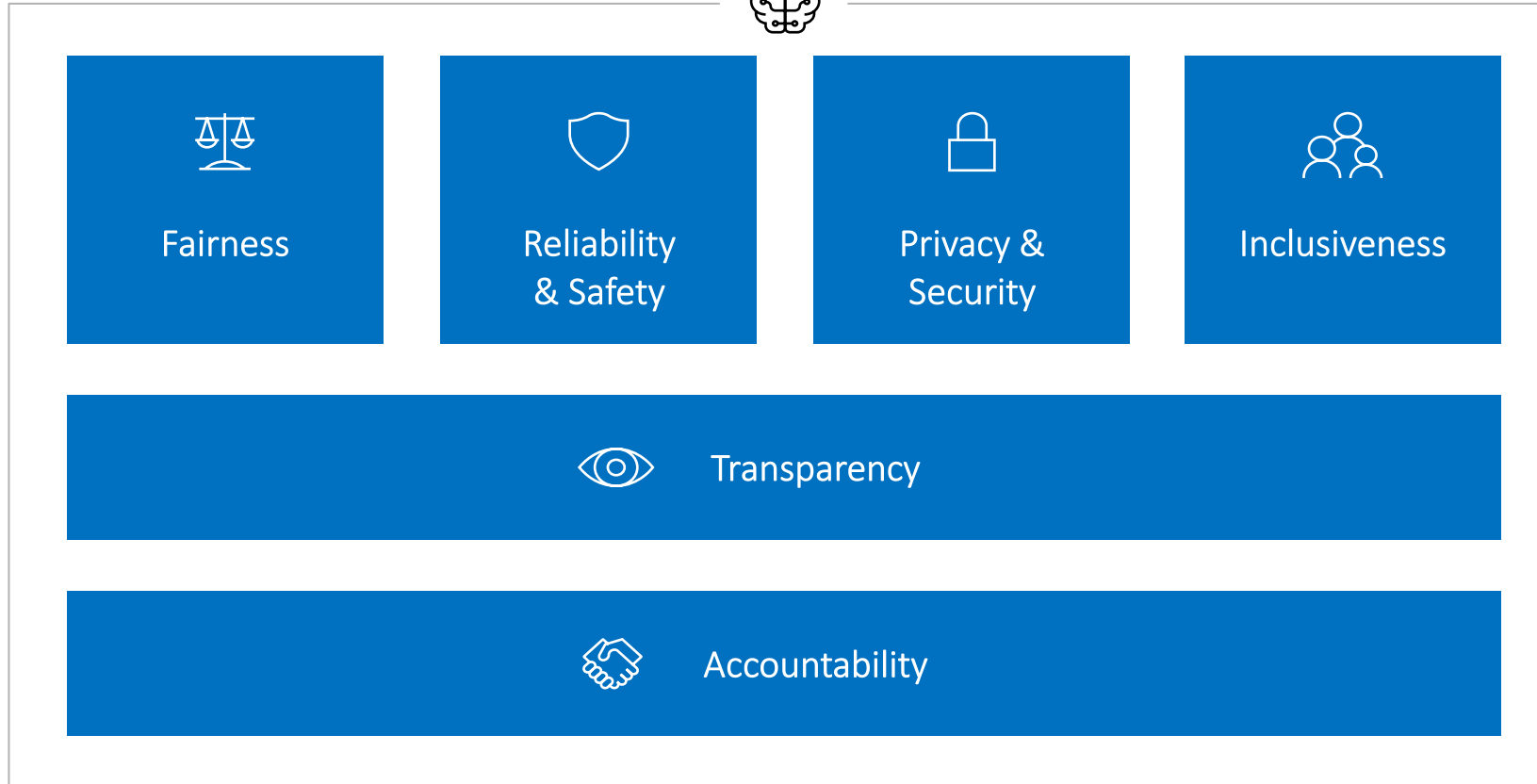
**HireView** is a video interview that predicts job candidate performance based on:

- facial expressions
- tone of voice
- vocabulary

# Recognizing Bias

- Datasets
- Associations
- Automated Decisions
- Interactions
- Confirmations

# Design AI to Earn Trust & Respect Values



<https://aka.ms/disabilityaiethics>



# 5 principles of inclusive AI design

1. Redefine bias as a spectrum
2. Enlist users to correct bias  
*"Nothing about us without us"*
3. Cultivate diversity with privacy and consent  
*"Representation matters"*
4. Balance intelligence with discovery
5. Build inclusive AI teams

# AI for Accessibility Projects



# Home

## Challenge:

1 in 10 people living with disabilities have access to the assistive technology needed.



**City University of London** is collecting data and developing experimental algorithms for improving personalized AI object recognition



**WeWALK** is enabling independence and safe, limitless exploration with a smart cane for people who are blind or have low vision

# Community

## Challenge:

In some countries, there may only be one mental health professional per [100,000](#) people. When paired with the reality that [1 in 5](#) people have a mental health condition, we are asking how technology can and should be involved.



***Mental Health America (MHA), Northwestern University and University of Toronto*** are partnering to bring mental health research and AI together



# Employment

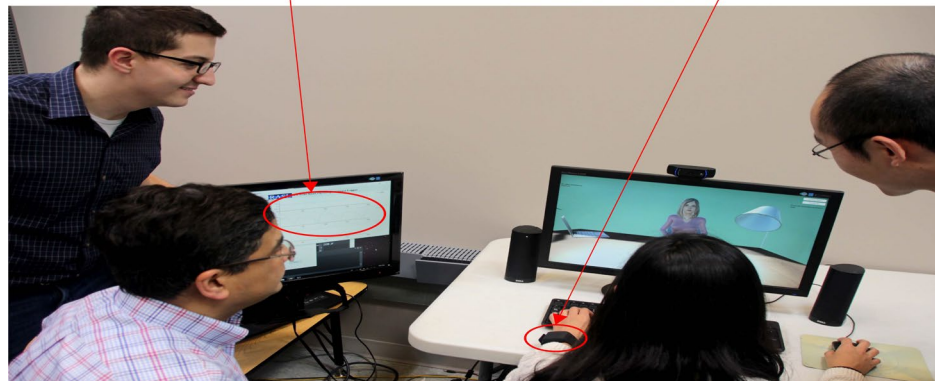
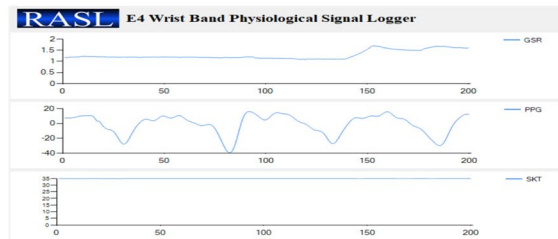
## Challenge:

In the UK, the unemployment rate for people with disabilities (7%) is more than double that of individuals without a disability (4%).\*

*\*pre COVID-19*



**Leonard Cheshire**  
*Disability* is collecting data about the career journeys of people with disabilities



The **Frist Center for Autism and Innovation at Vanderbilt University** is developing VR job interview training for people with Autism

# Education

## Challenge:

In the UK, the graduation rate with a 4-year degree for students with disabilities (22%) is half than that of individuals without a disability (38%).



**The Open University ADMINS team** created "Taylor" a chatbot assistant to reduce the barriers to independent living for people with cognitive disabilities

# Request for Proposals (RFP) in Education

## Opportunity:

Leverage AI to build and advance equity for students with disabilities within but not limited to the following areas:

- Adaptive and assistive technology
- Access to Curricula and Content
- Mental Health and Intersectionality

AI4A Education RFP Deadline: **March 12, 2021**

Apply online at [aka.ms/grant](https://aka.ms/grant)



# PhD Opportunity

## Opportunity:

Microsoft-funded PhD opportunity with Swansea University in the UK that will be looking at disability-first dataset collection in low-resource settings.

Application Deadline: **March 26, 2021**

Apply online at: <https://computationalfoundry.eu/icase-phd/>





# Connect with Me

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**How will you  
build a more  
accessible and  
inclusive  
world?**

