Zero Project
The Basics

Artificial Intelligence

What does Artificial Intelligence mean for inclusion, accessibility, and persons with disabilities? The new Zero Project publication series explains emerging topics in three formats: pdf, audio, and video.

- accesible pdf
- audio
- video

zeroproject.org/the-basics

Content

Artificial Intelligence is a simulation of human intelligence. It seeks to imitate the ways in which we do things and think – but to do it through technology.

AI IS HERE TO STAY

Where AI is concerned, there are many questions and uncertainties among persons with and without disabilities. What can it do for us? Are we replacing old barriers with new ones? Where does it already affect inclusion and accessibility, and what applications can be expected in the near future? In this publication Zero Project provides a helpful overview of the concept of AI, what it is and what it encompasses. Moreover, we address the specific concerns of persons with disabilities and offer guidance on how to approach the subject. AI has already entered our lives and is here to stay. Therefore, it is better to learn how to live with it than to fight it.

What is Artificial Intelligence (AI)?

We already know that computers don't think like humans do. Experts are divided as to whether they ever will.

For now, we can rely on AI systems to analyse data and look for patterns in order to make predictions about what will occur in the future. An AI system carries out actions depending on how and for what purpose that system is programmed. For example, Facebook uses AI to determine what ads to show its users. The decisions are based upon data gathered about the user. In this case, a complex equation, called an algorithm, processes the data in order to come to a conclusion as to which ads might interest a particular individual.

How to think of Artifical Intelligence
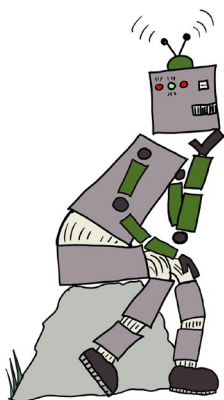
Artifical Intelligence can be considered as a "thinking machine," but most of its applications are still rather simple. Sometimes they are also clumsy or misguided, since AI is only as clever as the human programmers have understood connections, cause and effect, etc.
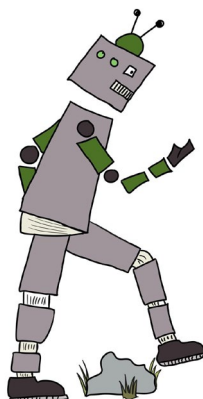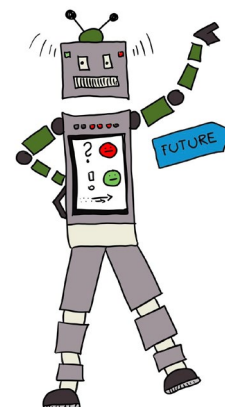
The Basics explains this fundament of AI.

AI literally makes devices walk or talk, and thus are fantastic in overcoming barriers. But when everybody can use AI except for a few, then those few are even worse off than before.

The Basics helps you better understand the new opportunities but also the potential dangers of AI.

AI – or machine learning – is already here, not something for the future.

The Basics takes a thorough look at applications that already exist, at the next applications to come, and at future developments according to AI-experts.

Face-recognition is AI

Another example is using facial recognition to open a locked smart phone. An algorithm compares the face being currently scanned with the one stored on the phone. If the scans match, the phone unlocks.

Text editors, social media, search algorithms, digital assistants such as Apple's Siri, and smart devices such as refrigerators that make out shopping lists are all examples of AI in use right now.

Adapting these and emergent technologies to a barrier-free philosophy is of particular interest to Zero Project. A number of AI-based solutions are already being used or developed. *Seeing AI*, for example, is an app that uses cameras to see for the visually impaired.

Voiceitt recognizes speech patterns in order to help people with speech disabilities.

From real-time translation to better diagnoses

Access Innovation Media is a company developing an app that delivers transcriptions and captioning in real time. *GnoSys*, another AI-based app, translates sign language into text in real time. In medicine, AI helps to make better diagnoses and to accelerate rehabilitation. AI voice-assisted technologies such as Echo, Google Home, and Alexa are already improving the lives of millions. Open a door with a voice command, adjust the lighting with a gesture, or ask your smartphone to read a label out loud. These are just some examples of how AI can help people overcome barriers.
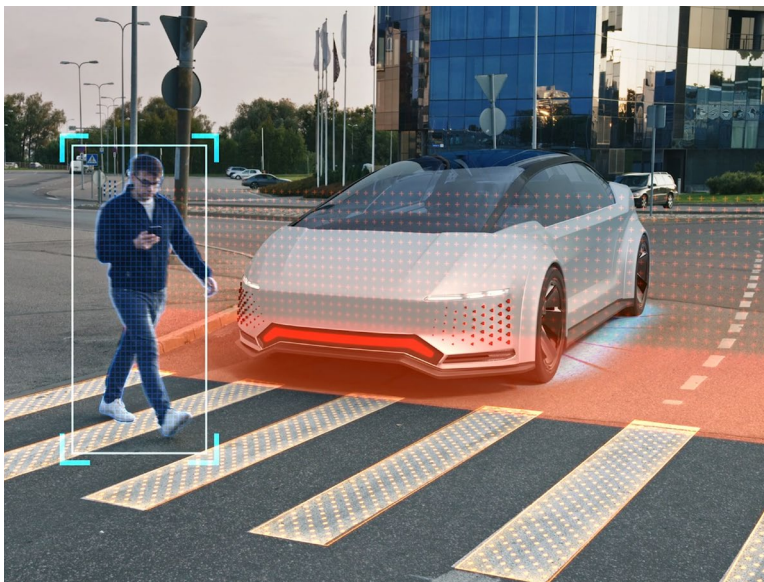
An AI-driven car learns to avoid accidents.
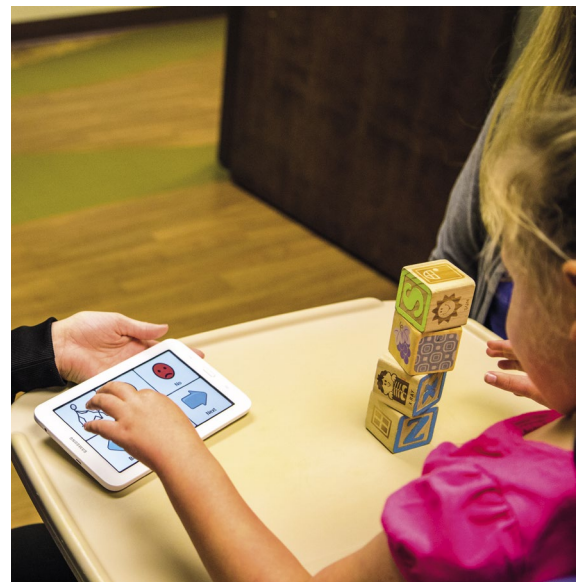
AI of LIVOX uses large symbols to communicate.

Imagine a tool that reads complex texts and creates accurate and comprehensible summaries, or a context-aware communication tool.

One such tool is Livox. It is an AI-driven customisable Augmentative and Alternative Communication (AAC) app that allows people to easily use symbols to communicate. Another example comes from Tobii systems, which offers solutions that enable those with profound physical disabilities to operate computers with eye control. In the future, Tobii may implement AI to make the application less tiring for users.

From self-driving cars to warm, responsive robot caregivers, AI's potential seems limitless. But not all future visions are rosy.

Open a door with a voice command, adjust the lighting with a gesture, or ask your smartphone to read a label out loud!

Where controversy starts

Some have warned that AI could become a deadly hazard. Even if a Hollywood-style robot uprising seems quite unlikely, unethical and careless use of AI technology has already lead to controversy.

For example, algorithms are often biased against different groups, including people with disabilities. It's not enough to rectify these wrongs. Inclusion, accessibility, and equality need to be fundamental to current and future developments if AI is going to meet real-world needs.

Education, assistive technologies, automation, or any other application of AI will depend largely upon how we assess risks versus benefits. This in turn depends on how one defines those benefits. An inclusive, people-first perspective will help advance basic standards of accessibility and equality, which can be expanded upon as the technology evolves.

Imagine an app that helps blind customers pick up their parcels at the post office, or one that instantly translates speech into sign language on your smartphone.

These futuristic-sounding apps are already here. Voice- and gesture-controlled smart homes are on the way. Other near-future ideas include

The Cash Reader from the Czech company Hayaku recognizes bank notes from more than 100 countries, using AI.

New technologies, such as Artificial Intelligence, can increase accessibility and independence for persons with disabilities. For example, incorporating AI in user interfaces and user interaction will be particularly useful for persons with sensory and cognitive disabilities.

personalized learning that utilizes responsive AI to tailor course materials to individual needs, automated analysis tools for complex texts, and the complete automation of time-consuming repetitive tasks. Thanks to AI, this may be at the start of an age where tedium disappears along with barriers to personal independence. To get there together, inclusivity has to be made fundamental to emergent technologies.

Automated analysis of job applications

Alongside AI and Machine Learning, Robotic Process Automation (RPA, a technology that is automating jobs) can perform such tasks as reviewing applications, processing transactions, compiling data, or replying to emails. Looking forward, it is estimated that RPA could do about 45 per cent of what educated professionals now do for a living.

Experts have wildly different opinions about how this will affect the future workforce. Forrester Research indicates that 9 per cent of the global workforce could be directly threatened. Other research indicates that less than 5 per cent of occupations would be fully automated, but up to 60 per cent will be partially automated. One thing seems certain: no matter what you do, some of your future co-workers will be machines.

Automation and education: tailored learning materials

AI-assisted personalized learning is on its way. Using a combination of online materials and AI-mediated feedback, educators and learners alike will have new tools at their disposal. For example, AI-based analysis of a learner's abilities and history will make it simpler for teachers to tailor learning materials to specific needs.

Chatbots can take on the task of answering those FAQs that often distract educators from focusing on more challenging and individual tasks. AI can also relieve teachers of repetitive tasks, such as correcting homework, and it can help learners to overcome technical hurdles in their own individualized learning process.

FACTS & FIGURES ABOUT AI

- By 2027, all companies that produce AI-based solutions are expected to have global revenues of $267 billion.
- Companies in 25 countries are now developing self-driving vehicles.
- The World Economic Forum predicts that by 2025 some 85 million jobs will be eliminated and 97 million new ones created as a result of AI.

The five most important words you need to fully understand AI

NARROW AI AND GENERAL AI, MACHINE LEARNING, ALGORITHM, DATASET

What is an algorithm? What can be data in a dataset? Is Machine Learning the same thing as AI? Is there only one way to teach technology? These questions are answered here.

THE TECHNOLOGY THAT IS ALL AROUND YOU

Narrow AI

Chatbots, search engines, and many simple smartphone apps are examples of Narrow AI. At times these are also called "weak AI" because they do not possess the computing power of larger systems.

Many people with a disability use voice assistants to provide information. For example, Apple's Siri and Microsoft's Cortana can answer queries about diaries, the weather, or general information. Such assistants can also read messages and automate the lighting, temperature, and security in our homes. AI learns about our habits and preferences to then predict our behaviour and make useful suggestions.

Narrow AI is all around us. For instance, it can interpret data from video feeds for road networks, helping to make road travel safer.

In the near future, integrating AI data analysis with intelligent sensors and the Internet of Things will become part of intelligent city design. Smart cities and towns will be responsive, thinking places that can modify themselves to personal needs.

THE TECHNOLOGY TO MANAGE THE MOST COMPLEX TASKS

General AI

This is a broader form of AI that seeks to teach technologies to do things that people do.

No time to draft that report, make that coffee, or clean up that room? Just get General AI to do it for you – better and more efficiently than you ever could.

General AI can deal with complex tasks that are repetitive, boring, or simply distracting for most of us. This technology is designed to take the drudgery out of our lives and free up time for more essential things. It can also replace humans where the task is especially dangerous or physically taxing.

Machine Learning

This is what puts the "Intelligence" in AI.

How do machines learn? You might compare the method to tuning a guitar, where we slightly turn the keys until we get the perfect tone. By comparing the current tone to the desired one, the machine can learn what direction to turn the key.

This is a kind of algorithm called 'linear regression', but there are many other forms of machine learning. All are based on collecting and comparing data in different ways.

Machine learning is divided into two broad techniques: supervised and unsupervised. *Supervised* learning uses 'labelled' data, and the machine focuses on desired results. In *unsupervised* learning, an algorithm tries to find patterns in the data. The output is not predetermined, making unsupervised learning useful for detecting previously unseen patterns.

Algorithm

An algorithm is a set of instructions for solving a problem or accomplishing a task.

Algorithms allow us to give computers step-by-step instructions to solve a problem or perform a task. An algorithm is simply a sequence of unambiguous instructions. If you want to make your aunt's prize-winning spaghetti sauce, you need to follow her recipe exactly. That's an algorithmic operation.

Dataset

Data are observations or measurements represented as text, numbers, or multimedia.

A dataset is a structured collection of data. Multiple datasets make up a database. Today, most databases are stored electronically to allow for easy access, manipulation, and updating. Legacy datasets include books, scrolls, or cuneiform tablets.

Universities, companies, and the public sector

Diverse stakeholders contribute in different ways to developing AI. Academics tend towards research, companies towards development, and the public sector often assumes a regulatory function. Whether the focus is development, implementation, or citizens' rights, each has a vital role to play.

The New Schools: Academic research

The Alan Turing Institute, created in 2015, is the United Kingdom's institute for data science and Artificial Intelligence. The Institute studies computer sciences, mathematics, statistics, machine learning, engineering, and the social sciences to make advancements in data science and AI. It also boasts a Data Ethics Group interested in creating public dialogues on AI issues. *www.turing.ac.uk*

At the *Inclusive Design Research Centre* (IDRC) in Ontario, Canada, focus on inclusion is paramount. Founded by Jutta Treviranus, the IDRC creates research networks dedicated to finding creative ways of ensuring that emerging technologies are fundamentally inclusive. *idrc.ocadu.ca*

The three cornerstones of the framework

Research in academia

Development by companies

Regulation by the public sector

A New World of Business: Companies on the move

Google, which has been acquiring AI start-ups at a rapid rate, is by far the largest and most important AI company. Google's CEO, Sundar Pichai, has suggested that the future is characterised by "evolving from a 'mobile-first' to an 'AI-first' world."

In 2018, *Microsoft* launched the AI for Accessibility programme to provide technology-focused seed grants to developers, universities, non-governmental organizations, and inventors. That same year saw *UNICEF* launch its innovation fund for open AI development. Microsoft's AI digital assistant, Cortana, directly competes with Alexa, Siri, and Google Assistant. In addition, AI features are a large part of the company's Azure Cloud service, which provides chatbots and machine learning services to some of the world's largest corporations. Microsoft also purchased five AI companies in 2018 alone.

IBM has been active in the field of AI for over 50 years. Through Watson, an AI-optimization tool, IBM created a machine-learning platform that can integrate AI into business processes, such as building chatbots for customer support.

Twitter uses AI to process visual information and to make recommendations for user timelines.

Facebook's AI research group, FAIR, is committed to developing new communication technologies. This project became famous when the two negotiator AI systems, Alice and Bob, unexpectedly began to speak to each other in their own language!

In a laboratory setting, a test persons tries an AI-driven robot fixed on his righthand leg.

Brave New Worlds:
A European approach to regulation

Despite the emergence of guidelines from a number of different interested parties, there is no unified regulatory body or philosophy for AI ethics. International organizations such as the European Union, the Organisation for Economic Cooperation and Development, and the International Telecommunication Union understand AI's social and economic implications as vital issues in need of regulatory principles, but the truth is that the world is far from having a well regulated AI.

Although a "human-centred, inclusive approach" is roughly outlined here, it is clear that regulating AI is in its initial stages. Who will take the lead in determining the regulatory strategies of the future? What will it mean for people with a disability, for business, and life in general? Only time can tell.

The European Disability Forum has outlined a set of recommendations for policies that include:

- privacy
- accountability
- safety/security
- transparency/ease of explanation
- fairness/non-discrimination
- human control of technology
- trustworthiness
- involvement of persons with disability.

COMPANIES DRIVING THE AI DEVELOPMENT

Some of the most innovative and highly regarded AI companies include the following:

AIBrain builds AI solutions for smartphones and robotics applications. They aim to build fully autonomous AI.

Vicarious is aiming to develop intelligent and more capable robots.

OpenAI is a research and development company that seeks to ensure that Artificial General Intelligence (AGI) benefits humanity. Motivated by concerns about the risk from AGI, OpenAI is a non-profit seeking collaborators to develop safe, beneficial systems.

Affectiva builds AI that understands emotions, cognitive states, activities, and objects by analysing facial and vocal expressions. Their AI is used in gaming, automotives, robotics, education, health care, experiential marketing, retail, human resources, and video communication

Banjo was founded after the terrorist attack on the Boston Marathon 2013. It relies on social media to analyse complex real-time events in order to help emergency services operate faster and smarter.

DJI from China currently controls more than 70 per cent of the global drone market and is increasingly entering the AI market. Their latest drones use AI and image recognition to avoid an object, leading to the potential of developing autonomous vehicles and robotics.

DeepMind is dedicated to accelerating development through an interdisciplinary approach, bringing together ideas drawn from machine learning, neuroscience, engineering, mathematics, simulation, and infrastructure.

"What's good for people with a disability is good for everybody!"

Three experts in the field of emerging tech and inclusion touch upon some key ideas and problems facing us today. Each points out different aspects of the ethical concerns stemming from AI use – and also how fixing these can create innovations that are useful for everyone.

CHRISTOPHER PATNOE

"Building AI that is robust and reliable for all"

Innovations originally intended to aid those with a disability tend to become integrated into core design. Today, as Christopher Patnoe points out, there is a great blurring of the lines between tech designed for disability and innovations for mainstream application. This means that, generally speaking, what's good for people with a disability is good for everybody.

Although there are plenty of reasons to be optimistic, Christopher points out that there are some major hurdles to be overcome. One of them has to do with equality of user experience. For example, many popular services for persons with disability are cloud-based, meaning that these services do not have the same level of effectiveness as those that only require a phone's processor.

"There are so many discussions to be had as we progress – about privacy, functionality, cost – but most importantly we have to find ways to build robust AI that is reliable, because if someone is depending upon it, you need to make sure that it does not fail. And also that it doesn't make predetermined choices for those with disabilities."

Christopher Patnoe is Head of Accessibility and Inclusion at EMEA, Google.

SUSAN SCOTT PARKER

"The danger of disability oblivious AI"

According to Susan Scott Parker, "we have AI developers who do not understand human reality, and disability being intrinsic to that reality, and we have poorly trained HR managers who don't understand that we treat job seekers with disabilities differently to treat them fairly."

Susan has become increasingly alarmed by the biases embedded in AI-powered HR tech. AI recruitment suppliers like to advertise the infallibility of their product without considering the true impact on the disability community. The result is "disability oblivious AI," according to Susan. She is currently building an alliance through her new site Disability Ethical AI, which will become a hub for those combating AI-induced inequality. *disabilityethicalai.org*

Susan Scott Parker, OBE, is Strategic Advisor to the ILO's Global Business Disability Network.

> "Many of today's innovations can be traced back to a motivation to create a more inclusive design."
>
> Jutta Treviranus

Jutta Treviranus and the exception to the rules

Jutta Treviranus began working with AI to understand severely impaired speech. Lately she has been testing AI drivers. Jutta's work on automated vehicles at intersections showed that a great deal was left to be desired when dealing with unusual situations. In one case, she tested the AI against its ability to deal with a person with cerebral palsy. This person typically made unusual movements – for example, navigating her way through pedestrian traffic backwards. In every single simulation the AI chose to run Jutta's friend down!

Jutta discovered that machine learning based on big data analytics and optimization is dangerously biased against minorities. The more data used, the more confident was the AI in its decision to run over Jutta's friend! Big Data simply does not like exceptions. This should do more than raise a few flags.

Assessing the implications for people with disabilities becomes paramount as AI becomes increasingly embedded in key decision-making. From the data perspective, any disability represents a major difference from the norm. Consequently, people with a disability are easy targets for bias. The machine does not like anomalies. This means jobs, loans, and college education are likely to be denied such persons on the basis of their inability to conform to predictive models. Security protocols may also identify persons with a disability as potential threats based on the same grounds.

So, are we looking out for AI bias now? How can we develop an ethics of AI decision-making? The answers are hardly satisfactory.

There are a number of reasons for this. First, people with disabilities represent a very large and diverse group. Also, many persons with a disability prefer not to be identified as such. In such cases, data optimization analytics would identify a difference, for example in work interruptions, that would penalize a potential candidate unfairly.

In other cases, using different assets or different methods to perform a job may be enough to unfairly single out a person with a disability. Since there is no common data characteristic that can be used to identify or define persons with a disability, AI decision-making systems are generally unable to combat bias on their own.

Jutta also found that people with disabilities are the most vulnerable when it comes to data abuse, misuse, and privacy concerns. Being unique within a dataset is a liability when anonymity is the primary way of protecting user identity from exploitation.

A potential way forward is to move from data exploitation to data exploration. Exploitation tries to replicate past successes through optimization. Exploration, however, is concerned with optimizing diversity and promoting novel methods.

Jutta Treviranus is Director and founder of the Inclusive Design Research Center at the Ontario College of Art and Design. This page is a summary of a discussion with David Banes, Director of David Banes Access and Inclusion Services.

NEHAT KRASNIQI

"Loneliness has an immense impact on our well-being"

Alana is a spin-off based out of Heriot-Watt University, a public research university in Edinburgh, Scotland. Nehat Krasniqi, who has many years of experience in tech and outsourcing sectors, explained how the AI his company develops is based on human interaction and is often referred to as "conversational AI." Alana can have long-form conversations on "pretty much any topic you want" and it can remember past conversational topics. Alana is a brilliant tool for alleviating the symptoms of anxiety caused by loneliness, both for people with or without a disability.

Alana "has a strong relationship with the blind community," Nehat says, explaining that its first iteration will include "applications to record and describe the world around us by embedding state of the art vision AI to Alana's dialogue."

This means Alana can also help you find your keys or navigate through a room. Alana could become an indispensable guide for many. "For instance, the person might want a coffee at a train station, and by holding up their phones and turning 360 degrees, Alana will recognize a logo or individual and direct you to the door to buy that drink."

Nehat is also keenly aware of the ethical issues involved in such technology. When should Alana seek help for a severely depressed person, for example? There is the danger of well meaning AI turning into a nuisance or a snitch. For now, the Alana team is looking to mental help lines as a possible model.

According to Nehat, Alana could "provide a vital piece of the jigsaw to address the social isolation of many with a disability and provide a companion."

*A summary of a conversation between, **Nehat Krasniqi**, CEO of Alana, and David Banes.*

KAMIL GOUNGOR

"Volunteers with disabilities add value to the organization's work and mission"

Born 1988 in Greece, author and activist Kamil Goungor writes about travel tips for the budget-savy accessible traveler for his blog The Trawheeler when he's not busy as chairman of the European Disability Forum's youth committee.

As an activist with the Independent Living movement, Kamil is aware of the ethical problems created by AI, but is generally optimistic about the benefits. He suggests that when hosting disabled volunteers, organizers should focus on the personal talents and needs of the volunteers. He would like to see bureaucracy dramatically reduced in order to make hosting disabled volunteers "sexier."

"Flexibility is a key element during the whole volunteering period, as unexpected issues might arise," he says. He hopes to ride in his own voice-controlled self-driving car some day and welcomes new advancements that will make brain-operated machinery and computers a reality for everyone.

*A summary of a discussion between **Kamil Goungor**, Policy and Movement Support Officer at the European Network on Independent Living, and David Banes.*

"Alana can have long form conversations on 'pretty much any topic you want' and it can remember past conversational topics."

Nehat Krasniqi, CEO of Alana

Say it, see it, get it, do it!

GREAT AI-APPLICATIONS THAT SUPPORT INCLUSION AND ACCESSIBILITY

Here are a few examples of Zero Project awardees that show innovative and exciting new technological solutions made possible through AI.

Saqip Shaikh using Seeing AI.

Voiceitt working for this little one.

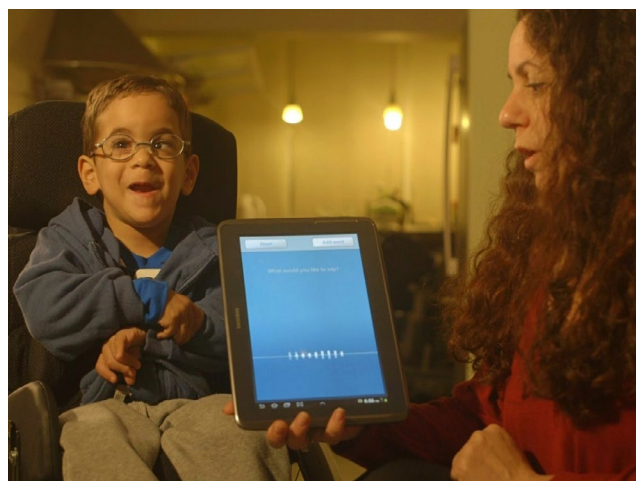### A camera app for your smartphone that comments on what is in front of you

United Kingdom. Imagine a robot that can see better than you can and is always by your side to help you in any situation. That's Seeing AI, Microsoft's amazing app! It observes your world and tells you what it sees. Not only can Seeing AI describe the world in spoken text, it can also read written or printed texts for you. Even photography and visual art are now accessible through Seeing AI. Show it a picture or a painting and it will tell you what is there. The potential for this app seem endless.
www.microsoft.com/en-us/ai/seeing-ai

A smartphone app that translates unconventional speech into plain language

USA. How to get thoughts and expressions out when speech is impaired to the point of unintelligibility? Voiceitt has the answer: Create your own new voice with an AI assistant! Machine learning makes individual speech pattern recognition possible, meaning Voiceitt adapts to the specific needs of each user. Users train the app for their personal speech, then improve on predictions made by the app through further usage.
voiceitt.com

An app that simplifies complex language into a simpler version of it

Germany. Looking for the essential information in a thick block of overwritten text? Have to understand something written just for insiders, or something in a language you are still learning? What about trying to decipher legalese, or techno-jargon? The aptly named solution capito means "I understand" in Italian. capito renders complex information into digestible bits, turning the intimidating into the enlightening.
www.capito.eu

A tablet app, that understands gestures and speech so that all children can use it

Brazil. Livox founder Carlos Pereira was motivated by his daughter, who was born with cerebral palsy, to find ways of empowering the disabled. Livox delivers with an AI-based app for tablets that uses advanced gesture recognition and speech pattern analysis to quickly provide simple and effective tools for self-expression. Compared to similar technologies, Livox is inexpensive, making it a contender among the world's most loved solutions.
livox.com.br

Self-test: Should you start working with AI yourself?

MAKE THE SELF-TEST!

You have seen that AI will be influencing an ever increasing number of products and services in the near future. So, an obvious question for your organization is about whether and how AI could also improve your services, or – more generally – your decision-making. Take this quick-test as a start.

QUESTION 1: Are you already collecting and using data about your beneficiaries/customers?

| 4 Very much so | 3 Somehow yes | 2 Not really, a bit | 1 Clearly not |

QUESTION 2: Do you work with large numbers of beneficiaries/customers, and would it clearly help you to better understand how they use your services and how satisfied they are with it?

| 4 Very much so | 3 Somehow yes | 2 Not really, a bit | 1 Clearly not |

QUESTION 3: Are any of the following close to the core of your service/product: travel, logistics, data analysis, communication, social media, videos, helplines/hotlines, auditing, library, contests?

| 4 Very much so | 3 Somehow yes | 2 Not really, a bit | 1 Clearly not |

QUESTION 4: Just in theory, can you measure – or at least record – actions of your beneficiairies/customers that are relevant for your organization?

| 4 Very much so | 3 Somehow yes | 2 Not really, a bit | 1 Clearly not |

QUESTION 5: Have you heard or read that other organizations in your field have already considered working with AI-technology, or doing so already?

| 4 Very much so | 3 Somehow yes | 2 Not really, a bit | 1 Clearly not |

Please tick the box for each of the 5 questions and then add the numbers.

15 points or more: You should clearly have a closer look at new opportunities that AI may offer you. Talk to your IT-administrator, webmaster, etc. about some personal experiences and contacts they can offer, and arrange a "brainstorming" meeting.

11 to 14 points: You have ticked "somehow yes" in one or more of the questions, so it might be worth exploring if there is more to it. It would make sense to get more familiar with AI before starting a real conversation, and be aware that it takes a long time to fully understanding the cost/benefit-ratio of an AI-project.

10 points or lower: It does not look like your first priority should be AI. You should clearly do some thorough research before taking a first real step towards AI.

Resources

For more detailed interest in the subject, here are some starting points for exploration into the themes of emerging technology and ethics, diversity, inclusion, and accessibility. The selection has taken into consideration the relationship between AI and persons with disabilities.

United Nations

The UN has recognized the need for better information regarding AI and persons with disabilities. The Special Rapporteur report gives a good introduction and overview:

www.ohchr.org/en/calls-for-input/2021/report-special-rappor-teur-rights-persons-disabilities-artificial-intelligence

Easy-to-read version: *www.ohchr.org/sites/default/files/2022-02/Easy-Read-AI-disabilities-report.pdf*

European Disability Forum

The European Disability Forum is an umbrella organization of persons with disabilities that defends the interests of over 100 million persons with disabilities in Europe. In May 2022 they published a report on accessible and non-discriminatory AI:

www.edf-feph.org/accessible-and-non-discriminatory-artificial-intelligence

European Commission

The EU's approach to Artificial Intelligence focuses on excellence and trust, aiming to boost research and industrial capacity while ensuring safety and fundamental rights:

digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence

GreyB

GreyB is an innovation research firm that performs custom analysis on patents, research papers, and market reports to drive business insights. Find their latest publication on companies leading the development of AI:

www.greyb.com/artificial-intelligence-companies

AI4People

AI4People was launched at the European Parliament, the first multi-stakeholder forum bringing together all actors interested in shaping the social impact of new applications of AI:

www.eismd.eu/ai4people

Zero Project – The Basics is a publication series of the Essl Foundation, dedicated to explain important and emerging topics that influence inclusion, acessibility, and the lives of persons with disabilities. It is produced in three formats: pdf (this publication), audio, and video.

This edition of Zero Project – The Basics was produced in cooperation with David Banes.

David Banes is Director of David Banes Access and Inclusion Services and previously led assistive technology services in Europe and the Middle East. At present he works to support access infrastructure from policy to practice globally.

#ZeroProject – join the Network!   **www.zeroproject.org**