



# Children and AI

## Where are the opportunities and risks?

UNICEF is mandated by the UN General Assembly to protect the rights of every child - and we know that in the not too distant future, AI will impact every child in many different ways. The World Economic Forum recognizes the relationship between AI, young people, companies, and governments to be crucial to negotiating the wellbeing of people all over the world as we move into the AI age. Together, UNICEF and The World Economic Forum seek to work alongside partners to set and lead the global agenda on AI and children - outlining the opportunities and challenges, as well as engaging stakeholders to build AI powered solutions that help realize and uphold child rights.

While there are many uncertainties around Artificial Intelligence, we know that it will impact almost every part of

our lives, and that in many cases the impacts will be greatest for children - from how they are conceived and born, to the services they can access and how they learn, to the jobs they will train for. This reality brings with it a tremendous amount of opportunity and risk. Without specific attention to children, the evolution of this technology could proceed without considering children's specific needs and rights. The healthy development of children is crucial to the future well being of any society, and the cost to society of failing our children is enormous. With this in mind, we have started to outline the areas where ethical considerations are most needed to uphold and protect children's rights in the age of AI. This outline will serve as a starting point for a series of collaborative papers that explore each area in greater detail and offer concrete recommendations.

**We are seeking partners to work with us on building out this research.**

Please sign up at [bit.ly/Children\\_Ai](https://bit.ly/Children_Ai)

if you are interested in joining in on this work.

**To do this work successfully, we need to engage with:** Technology companies working in the AI space, Civil Society Organizations with an interest in AI + Rights, Education Technology experts, Academia focused on Psychology, AI, Cognitive Development, Philosophy, Industrial Design; Disability Policy Makers, and others who are passionate about children's rights in the AI age.

# Opportunities for Children in the AI Age

## The Power of Adaptable AI

The better the AI, the better it is at adapting to a person's needs, context, preferences, and priorities. Adaptable AI has far reaching implications- unlocking opportunities ranging from:

**Personalized learning tools** tools that can expand access to and improve educational outcomes for children and adults alike.

**Facilitating more advanced and efficient supply demand matching** to improve access to work opportunities, resource sharing, long term employment and other forms of networking that allow us to reduce waste (both in terms of time and resources) and maximize opportunity.

## Big Data Insights

The massive amounts of data that are now available are only useful when we are able to distill them into useful insights. AI helps us to do this at an unprecedented efficiency and scale, and has unlocked new ways not only of gathering data but of processing it in order to better understand patterns, assess people's needs, and deliver better tailored services in almost every sector. Some of the most important areas where big data can be applied to support children include:

**Health** - For example, the combined power of Big Data and AI may allow us to finally reach the capacity to process vast amounts of health data that may uncover the hidden insights we need to crack the HIV virus, or solve any of the many diseases affect children around the world.

**Urban Planning** - Big data can help us better map and manage everything from waste management to traffic to ensure our cities can be safer, cleaner, and healthier homes to over half the world's population and ~70% of the world's children by 2050.

**Agriculture** - Big data can also help us to better understand risks and opportunities for agricultural production, allowing us to shift resources where they are most likely to be productive and maximize our yields in a way that is safe and healthy for our environment.

## Cognitive Support

AI technologies can supplement our innate intelligence and abilities, allowing us to access information faster and become more effective in our various personal and professional roles. Whether it be in allowing us to calculate equations at much higher speeds and sophistication, or asking a machine to perform many tasks that leave us free to concentrate on what interests us.

## Enabling Accessibility

AI technology is already offering more than 'intelligent' systems: it powers virtual assistants, robotic devices, smart applications, and other technologies that can enable accessibility for people who are differently abled- whether by offering physical support. To quote Archy de Berker, Applied Research Scientist at Element AI via Medium "People who are the least able stand to gain the most from technology. And yet if you look at standout tech companies of the last few years, they're not solving problems which help people on the margins: they are devising solutions for technologically adept 15-40 year olds."

AI can enhance accessibility for people with special needs whether they be:

**Physical** - For instance, AI can power a robotic arms that can be connected to a person's brain), or a simple smart phone iOs that can translate written word into spoken word for a blind person.

**Mental/ Emotional** - AI driven 'bots' are already being used to act as virtual therapists, extending access to mental health support for those who are unable to access and afford traditional forms of therapy. Other types of emotional Ai support include social networks that provide a sense of community and support for recovering addicts, or virtual counselors that can help support students suffering high levels of stress.

# Risk for Children in the AI age

---

## Privacy, Safety and Security

The implications AI has for children's privacy, safety, and security fall across a wide spectrum, from benefits related to the ability to understand threats facing children with greater specificity and accuracy than ever before (and respond accordingly), to risks around unintended privacy infringements. The positive and negative implications for children's privacy, safety, and security in an AI age warrant close examination. We will focus specifically on the following dimensions of privacy, safety, and security:

- **Identity protection**
  - Financial protection
  - Fabricated identities/ identity theft
- **Harmful content**
- **Location detection**
- **Biological safety** - what are the implications of AI for health (both in terms of genetic manipulation, genetic prediction, and emotional/ psychological ramifications)

---

## Access to Services Inclusion and Equitability

As we empower machines to make critical decisions about who gets included and excluded from these types of vital opportunities, we need to be aware, cautious and deliberate to prevent discriminatory outcomes. There is substantial risk that unchecked use of AI/ Machine learning to determine who gets access to what services (and at what price point/ quality) can reinforce historic bias and prevent children from having a fair shot at life. For instance, schools employing machine learning and

AI technology to sort through student applications may inadvertently but systematically exclude certain types of candidates if left unchecked and unsupervised. Specific services/ service areas that are worth exploring as they relate to children's rights + AI include:

- **Education**
- **Health**
- **Credit/ Financial Services for families**
- **Social/ Welfare services**
- **Employment and hiring**
- **Urban services/ Built environment** (waste management, policing, infrastructure upgrades, climate mitigation/ adaptation)

---

## Livelihood and Dignity/Automation

While AI will add enormous value to our global and local economies, automation will overhaul the landscape of opportunities - particularly around employment - for current and future generations in ways we can't fully predict. To ensure all children are able to protect their rights to a full and decent life, in conditions which ensure dignity, promote self-reliance and facilitate a child's active participation in the community, considerate and deliberate explorations must be undertaken in the following areas:

**Employment** - Experts predict that robots will replace humans in one third of jobs of today's economy by 2025, what does this mean for parents raising children? For children who will eventually enter the workforce?

**Skilling** - 65 percent of students starting elementary school today will eventually work in jobs that don't exist. What skills

do young people need and how can we ensure we provide them through formal education and other pathways? (Digital Literacy)

**Social opportunities** - what happens when children are no longer learning in classrooms from a social development perspective?

**Learning leisure** - what happens when young people don't have traditional 'work' or employment to fill their time? How can we imagine and promote the idea of 'purposeful leisure'?

---

## Cognitive/ Psychological Implications

The new ways that children and young people interact with technology has implications to our core physiology and psychology. This work will entail an exploration of what these implications are, looking into questions around:

**What AI does to the brain** - what happens when we hand over cognitive tasks to AI, what are the implications of the attention economy?

**What are the psychological implications** - depression, anxiety, social skills?

**Cognitive Manipulation** - what does it mean to use AI to direct or control children's behavior?