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Discover opportunities and risks with ethix.



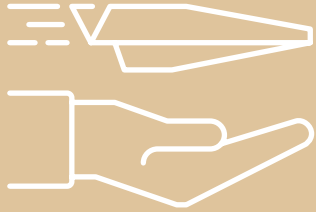
The dream of an artificial intelligence capable of assisting us with our most repetitive tasks is a compelling vision of our fantasy. Yet, its negative pole, symbolized by an intelligence that could dominate us as humans, is also present. This is perhaps the most relevant mission we have today: to avoid allowing these two poles to influence the debates on AI too much. Because the real challenges will not come tomorrow, they are already there.

The issue

Artificial intelligence seeks to create “intelligent” computer systems to help us perform certain tasks. These programs can accomplish various actions associated with human intelligence, such as reasoning, understanding, and interaction. As a result of the increase in the computing power of machines and the number of data available, AI is undergoing unprecedented development.

There are two types of AI. **Weak artificial intelligence** focuses on certain predefined tasks. It is devoid of consciousness or self-awareness. Yet, we often refer to **strong artificial intelligence** when we visualize AI. This type of AI tries to realize the possibility for AI to experience a real consciousness and to apply its intelligence to undefined problems. For now, this type of AI is science fiction.





Affected industries

Big data and increasingly powerful algorithms are multiplying the power of artificial intelligence (AI) tenfold. This type of AI will play a major role for all economic sectors, profoundly transforming business models and opportunities.

Retail trade

Online shopping
Automation

Communication and information

Social networks
The media

Banking and insurance

Consulting services
Business management

Health

Personalized medicine

Future scenarios

Thanks to a simple mobile phone, each of us has a personal assistant. It is able to organize our appointments, provide answers to administrative messages and advise us on our purchases. With each activity, it improves its knowledge about us. The more transparent we are, the better it becomes.

Before long, some companies may hire hardly any more human resources; they will use artificial employees instead. Thanks to the development of an ever-stronger AI, these artificial employees will have a real awareness of their existence and work. They will be able to meet all the challenges of working in a company.

The police force is mostly no longer active in the field of intervention, but in the field of prevention. Its units are proactively working on the basis of information generated by AIs. The number of burglaries and violent crimes has fallen sharply. Prisons are full of burglars and potential murderers, incarcerated before committing their crime.





New Scientist
Crime prevention or limitation
of individual liberty?

Forbes
The AI, future Swiss banker?

The Guardian:
Determining sexual orientation
based on a photo?

Test your risk zones with the
ethix survey.

Ethical risk zones

The development of ever more powerful AIs raises many ethical risks that can be classified into 4 categories.

Respect for individual autonomy

In my daily life, AI is a help and support. Can this AI become a threat to my autonomy and freedom of choice? The predictive forces of an AI can be used against my autonomy. The development of ever more efficient AI also raises the essential challenge of future cooperation between AI and human intelligence. Will we have a relationship that helps to improve human performance or will we compete against each other (for domination)?

Responsibility

AI supports us in many tasks. This relationship presents a fundamental challenge in terms of responsibilities. Personal assistants, autonomous cars, prediction systems: all assume part of our direct responsibilities. We need to create new ways to manage this delegated and shared responsibility.

Ethics of algorithms

Today's AI is based on the combined use of extremely powerful algorithms and huge amounts of data. The creators and users of AIs must be able to address the biases produced by data that is itself biased. The AI should not mirror our own injustices, or worse, amplify them.

Increasing inequalities

AI enables individuals and companies to increase their capacities. It will also play a major role in future military conflicts. How can we ensure that AI will not be a tool of domination within societies or between states?





Our current discourse on AI oscillates between promises of eternal bliss and threats of eradication of our species. The narratives we use are too extreme. We need to rectify this and anchor AI issues in our actual societal debates.

The creation of AI raises not only fundamental questions about human-machine relations, but also ethical questions about the development and impact of AI in each sector of society.

Focus

The development and use of AI should be guided by a framework of 4 strong values:

Individual autonomy

AI should be at the service of individual autonomy. In a collaborative vision, AI is at the service of humanity, making us freer and more efficient.

Responsibility

The creation and use of AIs is subject to a process of shared responsibility. Companies and individuals are able to define where their respective responsibilities begin and how they are shared with AIs. The responsibilities of the latter are also clearly defined (designers, developers, vendors).

Justice

The creation and use of AIs should be done within a framework of strong justice. On the one hand, this concerns the very functioning of AI, particularly algorithmic biases, but also the impacts on life in society. AI must be judged by its ability to empower individuals and enable them to achieve greater prosperity. At the international level, the same applies to cooperation between countries.

Trust

A clear anchoring in a logic of responsibility and justice will ensure trust in AI. Direct users, but also all members of a company, must be able to trust AIs. This is the condition for a cooperative paradigm between AIs and individuals.





The debate on the impact of AI in economic and societal life is not a matter of science fiction. It must be conducted here and now, as a political, economic, legal, social, cultural and legal issue. All of society is affected by this technology.

Looking forward

Artificial intelligence will play different roles for us. Each of these roles will have to be carefully designed to address the most significant ethical risks.

Help. Assistants to free us from tedious tasks.

AI will be an assistant in our professional and private daily lives. We will be able to define/decide exactly which responsibilities we want to delegate. Most AIs will be considered to be public goods and will be made available to the greatest number of people. Their systematic use will have to be accompanied by a social reflection on the future of the labour market.

Foreseeing. Simulations to anticipate threats.

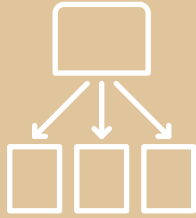
AIs are tools for anticipating future problems. They allow us to anticipate individual problems, for example diseases, but also social problems (crime prevention). These predictive AIs

should be used with respect for individual freedoms; some areas should be exempt from such an algorithmic approach.

Decision-making. Assistants to help us in our decision-making.

AI will allow us to make better decisions in complex and uncertain contexts. They will provide insight where there was none, connecting and exploiting huge amounts of data. If the accountability regime is clearly defined, AIs will provide us with a more solid basis for decision making. Our challenge will be to manage this new mass of information.





Thanks to the tools developed by ethix and its partners, you can incorporate ethical dimensions in your AIs: development, configuration, use. You turn ethical risk areas into opportunities.

ethix resources

ethix Mapping and ethix Canvas

A first approach to clarify the ethical risks of your AI

ethix workshop

An in-depth analysis of your AI set-up (test data, calibration)

Internal training

An opportunity for your team to improve its ability to meet ethical challenges (communication, HR, strategy)

Labels

Implementation of labels guaranteeing the programming and ethical use of AI

