

A Call for Proactive Policies for Informatics and Artificial Intelligence Technologies

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Artificial Intelligence (AI) presents a powerful paradigm shift opportunity to human society as no other technology-dimension has done in the history of the human race. The reason for this is evident: past scientific and technological revolutions replaced human muscle power and this increased the value of human intelligence. Thus, in spite of labor displacement, mass human capital remained relevant and vital. In the information age, computers helped create, store, process and share vast quantities of digitized information, and human intelligence began to be valued even more highly for its capabilities to manage computing meaningfully and profitably. However, the dawn of the AI technology dimension challenges the human identity as never before as AI has begun competing for the crown of superior “intelligence” with human entities. AI is on a winning trajectory in many of the battles with human intelligence, as has been seen in gaming through the sustained victories of AI agents over the best of human Chess and Go grandmasters.

These AI technologies’ powerful evolution, pervasive growth and ubiquitous opportunities present humanity with many risks and challenges, some of which we understand and others we have just begun to identify. In a simplified view, Artificial Intelligence is a set of technologies that mimic the functions and expressions of human intelligence, specifically cognition and logic and informatics is advanced technology driven big data analytics. (Samuel et al., 2021). The general sense is that we are yet to perceive the best and the worst impacts of the AI technology-dimension. The 2021 Stanford globalAI-100 report (Littman et al., 2021) states that few nations “have moved definitively to regulate AI specifically”. The critical question then becomes, can governments and organizations continue to use the same post-hoc catch-up strategy that has been used for pre-AI technologies for effective governance of AI technologies and their applications?

Unparalleled Power Calls for Great Responsibility

Artificial Intelligence may sound futuristic to some, but it is already ubiquitous: It is employed in cellphones and personal computing machines, and in services from companies such as Facebook, Amazon, Netflix, Apple and Google. Multiple times a day, humans use these technologies and in turn, these technologies gather information and “learn” about our habits, preferences, and personal lives. Human intelligence driven data science and analytics are being increasingly replaced by scaled automation of analytical processes, informatics and AI technologies that drive powerful AI applications – recent research shows the power of big data informatics and machine learning in tracking and classifying individual and aggregate emotions (Samuel, et al., 2020). Many corporations across a broad range of domains, such as global financial institutions, are increasingly adopting this trend of leveraging AI and informatics without creating sufficient customer awareness of what algorithms are applied to vast quantities of personal data.

This AI-fueled harvesting of information potentially threatens the rights of common individuals and can have serious implications for individual sovereignty and “self-ownership.” For example, the use of AI and informatics may generate advanced deep insights about customers’ personal behaviors without the customers’ knowledge, and be used to manipulate customer behavior and decision making, providing unfair and unjustified advantage and control to companies using these technologies.

McKinsey Global Institute authors, Dobbs et al., contrast AI to the industrial revolution, and emphasized the superiority of AI as a technological dimension which they stated as “*happening ten times faster and at 300 times the scale, or roughly 3,000times the impact*”. Imagine the control of all of this Artificial Intelligence-driven human manipulation power being concentrated in the hands of the “elite” and subject to the whims of a few billionaires owning global technology corporations, without appropriate public governance policies and laws in place to safeguard the interests of the masses. Policymakers who recognize the depth of this growing problem should focus on three critical areas to shore up the safety of technology users:

- **Curbing misuse:** Regulating the abusive use of Artificial Intelligence technologies by those who have extensive AI and informatics capabilities must be a top priority for policy makers. For example, the unethical practice of using deep insights based on harvested personal information, to clandestinely mass manipulate human behavior.
- **Mitigating inherent risk:** There are many examples of AI gone wrong: AI facial recognition systems have misidentified persons accused of crimes, AI credit scoring has demonstrated gender bias, AI-driven housing and benefits applications have amplified discriminatory language, and many AI development projects—like IBM’s Watson for Oncology project, which burned through around \$62 million before being abandoned—have failed. There is a need for elaborate policy development to cover multiple levels of AI technology risks, including ethics, performance and equity.
- **Educating the public:** The development of AI education and transparency policies directed at organizations, requiring all AI implementations to be accompanied by educational materials providing technology transparency, would provide opportunities for end-users to make educated decisions. Multiple levels of AI education across disciplines must be prioritized.

It is true that society must foster entrepreneurship, risk taking, and other business-supportive practices to ensure a vibrant economy. While it can be useful to reward risk, it is counterproductive to encourage recklessness and lack of concern for people’s rights. The potential for business applications of AI is vast—and ultimately, profitability will not be disproportionately affected by policies and regulations that secure consumers’ rights. A balance between innovative enterprise and regulation is necessary for human-centric AI, and it is currently lacking globally.

The risks of AI and informatics will need to be addressed through an array of tactics, and one critical component is the frontend framing, development and implementation of appropriate public policies. Every human being must be empowered to have the choice to not be subject to the tyranny of gargantuan and often monopolistic AI systems with a “take it as it is or suffer” implementation. For example, organizations using AI should be required by the government to provide every end-user the opportunity to opt out of being subject to their algorithms without coercive penalties. Given the enormous implications for individuals and for society at large, it is critical that governments and organizations adopt a significantly different and renewed policy strategy: it is not going to be sufficient to use the strategies employed to govern the disbursement of information age technologies. With Artificial Intelligence technologies, given the scope, speed and scale at which damage can occur, it is compellingly necessary to implement forward-thinking policies now to ensure the future safety and sustainability of human rights and the human way of life.

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