Choices Regarding Designs Today Will Impact Our Shared Future Tomorrow

In early December 2016 the Institute of Electrical and Electronics Engineers (IEEE) released version 1 of its document entitled Ethically Aligned Design focused on artificial intelligence and autonomous systems.

Produced by an impressive group of positive #ChangeAgents all working under the larger umbrella of The IEEE Global Initiative for Ethical Considerations in Artificial Intelligence and Autonomous Systems, this living document provides initial recommendations for considering how the designs of artificial intelligence and autonomous systems (AI/AS) may impact the lives of humans in ways both intended and unintended. Additional updates to the document are expected in 2017 and beyond.

About a year ago I received an invitation to join the effort, linked in part to Eisenhower Fellowship to Australia and Taiwan to discuss ethically innovative strategies for the internet of everything with leaders in both countries. The invitation was to serve as Co-Chair for one of the committees of The IEEE Global Initiative dubbed "Effective Policymaking for Innovative Communities Involving Artificial Intelligence" – or more succinctly: "EpicAI" – focused on ethically innovative strategies for AI/AS endeavors.

Our committee is composed of different experts across sectors exploring possible draft recommendations for:

(1) encouraging mutually beneficial public-private collaborations with regards to artificial intelligence and autonomous systems (AI/AS) to include addressing barriers to impede progress,

(2) exploring how the public sector can ethically employ AI/AS to improve delivery of services, and

(3) potential frameworks for policymakers to consider the impacts of AI/AS adoption on different sectors to include healthcare, manufacturing, e-commerce, law enforcement, national defense, and more.

Our world is changing rapidly. While admittedly there is a lot of technology buzz that has yet to be realized surrounding AI/AS, there also are some very real advances that go impact how we work, how we live, and ultimately how organizations in both the private and public sector adapt to rapid global change. The United Nations has formed an Interregional Crime and Justice Research Institute for Robotics and Artificial Intelligence. The World Economic Forum has announced plans to launch its Center for the Fourth Industrial Revolution in San Francisco.

On the topic of ethics – and potentially whose ethics will inform the design and use of AI/AS – after more than 3,000 years of philosophical debate, we humans still have not been able to identify a common ethical framework that spans humans of all backgrounds and fits all contexts. Yet that does not mean we shouldn't still strive to be ethical in our efforts to align design of AI/AS to positive outcomes for society. Discussing ethics is pivotal to make sure we make informed choices, and allow individuals to have a choice, when it comes to AI/AS devices and services in their lives.

We will need multiple perspectives and greater discussion with regards to how AI/AS will impact our lives at work, at home, with friends, and with family members. Such perspectives include how the design choices and "choices of use" impact:

(1) individuals;
(2) societies;
(3) companies producing an AI/AS device or service;
(4) other companies and other sectors associated with AI/AS devices and services beyond the initial designers;
(5) nations; and, ultimately
(6) our shared future globally.

While such discussions across such diverse stakeholders may seem daunting – the initial release of IEEE's [Ethically Aligned Design](#) personally gives me hope and our committee focused on innovative policies associated with AI/AS is focused on practical recommendations for both the short- and long-term. This includes removing barriers to impede AI/AS adoption and mutually beneficial public-private collaborations.

Moving forward, our committee focused on ethically innovate strategies for artificial intelligence is currently reaching out to experts in both the private and public sector starting with the question of Definitions – essential to establishing a common vocabulary for discussion across disciplines. We are also focusing on topics of what Results experts see AI/AS bringing, to include outcomes to individuals and societies and barriers to progress. From there we're exploring what ethically aligned design Engagements, Actors, and Measurements might inform greater benefits and minimize any negative losses associated with AI/AS.

We have tentatively dubbed this our "DREAM" framework focused on encouraging ethical discussion of Definitions, Results, Engagements, Actors, and Measurements across sectors. Without question, AI/AS will disrupt and impact us all in the years ahead.

Our goal is to trigger global conversations to ensure such impacts are positive wherever possible and encourage engineers and designers consider from the start the broader, long-term impacts of what we design today. Choices regarding designs today will impact our shared future tomorrow – and thus it is of crucial importance to openly discuss ethically aligned design across communities now.

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