



International Colloquium

on Ethics and Governance of Autonomous AI Systems for a Better World

18–19, February 2019 | India International Centre, New Delhi, INDIA

AI For a Better World!

Global Landmark Event on Ethics and Governance of AI

Colloquium Brief

“ Industry needs to be prepared for the important role played by Technological disruptions like AI, IoT and Robotics for the Nation ”

– Hon’ble Prime Minister of India – Narendra Modi

Artificial Intelligence (AI) is the buzzword ushering in the 4th Industrial Revolution. AI is a wide-ranging tool that enables people to rethink how we integrate information, analyse data, and use the resulting insights to improve decision making—and is already transforming every walk of life. Artificial Intelligence is also raising important questions for society, industry, commerce and economy, moral ethics and governance.

“ Artificial intelligence technologies could increase global GDP by \$15.7 trillion, a full 14%, by 2030. ”

–PWC

Rapid advancements in the fields of Internet of Things (IoT), Artificial Intelligence (AI), super smart machines, cognitive informatics, cognitive robotics, soft computing, and related areas have aroused interest as well as concerns about the emerging interactive man-machine heterogeneous environment, where autonomous super intelligent machines/robot working solo or teaming with, can match and even surpass humans in speed and precision. No longer is this a matter of science fiction when Isaac Asimov in 1942 wrote three rules on robotics to protect humans in his short story ‘Runaround’.

“ A.I. might prove to be either the best, or the worst thing, ever to happen to humanity ”

–Stephen Hawking

As computational resources, algorithms, design and engineering grow in complexity and range, it is important to anticipate, investigate, and to the extent possible, design and evaluate, how AI can be best deployed for good, aligned, and in harmony with human intelligence and ethical norms in the face of complex and demanding situations. However, alongside the growing interest in exploiting the potential for AI, there are also concerns, among others, about its possible unethical use, for example, in collecting data or its usage in decision making which is contrary to the human values and rights.

India's NITI Aayog in the Discussion Paper on AI National Strategy highlights Ethics, Privacy and Security related concerns associated with AI implementations in various areas. It also mentions about remediation and regulatory measures to make AI: applications safe, secure and contributing towards better life of mankind.

UNESCO COMEST recommends a technology-based ethical framework for the two categories of AI systems viz. deterministic and cognitive. Deterministic, where results/actions are controlled by a set of algorithms whose actions can be predicted; and Cognitive computing where it can learn from experience, not only from human teachers, but also of its own, thereby developing an ability to deal with its environment on the basis of what has been learned. Compared to 'traditional' or deterministic robots, cognitive robots can make decisions in complex situations, decisions that cannot be predicted by a programmer.

The IEEE Global Initiative has evolved certain ethical guidelines for AI and autonomous systems. Its experts suggest that these models be programmed with consideration for widely accepted human norms and rules for behavior. AI algorithms need to take into account the importance of these norms, how norm conflict can be resolved, and ways these systems can be transparent about norm resolution. Software designs should be programmed for "nondeception" and "honesty," according to ethics experts. When failures occur, there must be mitigation mechanisms to deal with the consequences. In particular, AI must be sensitive to problems such as bias, discrimination, and fairness.

To discuss the emerging issues and challenges in applications of AI systems, specially related to ethics and governance of such systems, a landmark global event is being organised by a group of concerned think tanks and non profit organisations in India. These include: CMS (www.cmsindia.org) - a research based think tank on development and governance; Infocom Think Tank (www.infocomthinktank.com) - deliberating on technological, social and related issues aimed at national / global benefits; ITU-APT Foundation of India, a registered not-for-profit Scientific Society and member of ITU-T and ITU-D – up and down streaming of ITU ICT activities.

In this Colloquium it is proposed to discuss AI's application across a variety of sectors, address issues in its development, and offer recommendations for getting the most out of AI while still protecting important human values. It will highlight the issues of need for transparency, accountability, awareness of misuse, well-being of environment in which the autonomous AI is operating and also ensuring that human rights are always protected.

Colloquium Sessions

Activity in AI is progressing rapidly in every sector. In order to ensure that the tempo of these activities embracing multi-disciplinary cyber-physical domain stays within appropriate limits, professionals of the various areas must get together in 'brainstorming' sessions towards ensuring an ethical base for AI. The deliberations are proposed to be covered under the following interactive thematic Panel Discussions:

- Technology Overview, Current Trends and Forecast;
- Sectoral Applications, Case Studies;
- Primary Concerns & Key Policy Issues;
- Societal Need for alignment with Human Ethics and Values;
- Principles, Guidelines, Technical Standards and Evaluation;
- Governance and Legislation

Colloquium Objectives

Recognizing that morals and ethics of people may vary depending on their origin, religion, culture, traditions, social practices and geo-location, some legal scholars argue that ethics are too subjective for AI to follow. But all agree, at the same time, that it is essential for AI to follow certain common globally accepted principles, norms and standards mandated by national legislation and international convention to ensure the safety of humans, and the same goes for technology and to its developers.

Considering the current developments and future trends in this fast emerging technology and recognizing its profound impact on society, the deliberations will be aimed at:

- adoption of the main principles that should form the basis of further work related to (a) responsibility of the designers and builders of advanced AI systems concerning the impact of their own moral ethics on the design; (b) Operational Requirements; and (c) Compatibility of AI systems to fundamental human values - human dignity, rights, freedoms, and cultural diversity.
- technological, operational issues, particularly such that are related to Ethics; AI's applications across various sectors;
- identifying policy and regulatory/ governance measures; mechanisms that may be put in place that encourage – not inhibit - technological development of AI for betterment of the society and environment and at the same time are adequate to safeguard human life and values thereby getting the most out of AI for betterment of society;
- developing the design specifications (OR/QR) of the intended standalone governing mechanism - to develop specialized hardware, software and virtual machine architecture for the appliqué/discreet, embedded/integrated ethics governance mechanism.

Colloquium Outcomes

The recommendations of the Colloquium in respect of the following factors shall lead to a Research project proposal for R&D Grant with a view to develop an ethical governance mechanism for Autonomous/ AI Systems to be taken up as a multi-institutional initiative:

- a framework for the various stakeholders (Universities, IIT's, Research Bodies, Research Scholars, Corporate, etc.) to take up R&D and commercial initiatives
- desirable OR/QR of the appliqué/discreet, embedded/integrated ethics governing mechanisms' hardware/software to be developed
- Specifications and relevant standards for such mechanisms which may not interfere or affect the intended operation and performance of the main AI system, but pre-empt and prevent unpredictable harm to humans by its mal-operation;
- guidelines, including “do's and don'ts”, for the end products and the required testing and monitoring tools for validation. ; software quality management and evaluation methodology, test and evaluation tools and resultant prototype(s) of the hardware/ software as the end product of the exercise being undertaken;

Besides contributing to:

- evolving recommendations to the Government relevant to the subject with regard to the need for policy/ legislation and regulatory/ governance measures for consideration;
- to sensitise citizens about the ethical aspects of AI and related technologies, their contribution to digital transformation and their adoption into our daily lives by appropriate publications.

Registration

Participants will gather to present research results, share visions and ideas, obtain updates on latest developments in AI technologies and expand professional and social networking. This 2-day event includes a diverse technical program for practitioners, policy makers, and executives delivered by distinguished experts from government, regulators, industry, academia and the public sector. All conducted in a relaxing environment accompanied by poster exhibition and display. All Participants are requested to register to ensure entrance.

To Register: www.cmsindia.org/aiforbetterworld
by **February 12, 2019**

For more information or details contact –
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