

AI Beyond Robotics

New Radi Serial on Artificial Intelligence

Welcome Tomorrow(English), Aane Wala Kal (Hindi)

We are now living in the age of artificial intelligence (AI). Even without our knowledge, it has made an inroad in our daily life and progressively keeps on touching every part of us. Let's take the example of any smart mobile phone. When we want to send a message to someone, as soon as we write the first word, our phone gives us different options of words to complete the sentence. Voice-activated assistants in tablets and desktops, capable of following voice commands and completing follow-on tasks are another example of AI. On a different end, whenever we visit a website, a network of algorithms running in the background processes our data online behaviour: analysing the browsing history and collapsing thousands of data points into an intelligent guess on which products would entice the user, all to decide which advertisements to display. The machines in users' immediate personal space have become far more intelligent than is commonly realised.

These are just a few application of AI in our daily life. Today AI has provided us with immense processing power, storage capacity, and access to information. If we look at the history of human civilisation, we find the exponential development of technology gave us the spinning wheel in the first, electricity in the second, and computers in the third industrial revolution. AI is "the fourth industrial revolution" (*the World Economic Forum 2016*) that has radically transformed the way we live and connect with each other." However, it has also given us regulatory challenges, such as data ownership and labour protection.

India, being the fastest growing economy with the second largest population in the world, has a significant stake in the AI revolution. Recognizing AI's potential to transform economies and the need for India to strategize its approach, Hon'ble Finance Minister, in his budget speech for 2018 – 2019, mandated NITI Aayog to establish the National Program on AI, to guide the research and development in new and emerging technologies. As cited by Niti Aayog, in a discussion paper on AI, the AI has the potential to contribute an additional 957 Arab dollars in our GDP, which can enhance the GDP rate by 1.30%. Considering the potential of AI to provide large incremental value to a wide range of sectors, NITI Aayog has adopted a three-pronged

approach – undertaking exploratory proof-of-concept, AI projects in various areas, crafting a national strategy for building a vibrant AI ecosystem in India and collaborating with various experts and stakeholders. Niti Aayog has also asked all the ministries to identify the relevant area with the potential use of AI to boost the economy and social development.

AI, in common parlance, is the simulation/mimicking of human **intelligence** processes by machines, especially computer systems. It refers to the ability of machines to perform cognitive tasks like thinking, perceiving, learning, problem-solving, auto-correction and decision making. To be more specific, according to the father of Artificial Intelligence, John McCarthy, it is “The science and engineering of making intelligent machines, especially intelligent computer programs”. Or Artificial Intelligence is a way of making a computer, a computer-controlled robot, or a software think intelligently, in a similar manner the intelligent humans think. AI is accomplished by studying how human brain thinks and how humans learn, decide, and work while trying to solve a problem, and then using the outcomes of this study as a basis of developing intelligent software and systems.”

Initially conceived as a technology that could mimic human intelligence, AI has evolved in ways that far exceed its original conception (i.e. mimicking human intelligence). Today, the AI’s capabilities have dramatically expanded due to advances made in data collection, processing and computation power. Resultantly the AI, the utility is growing in several fields and taking societies into uncharted territory. Intelligent systems now can be developed and deployed to take over a variety of tasks, enable connectivity, and enhance productivity and augmenting and amplifying human skills.

Given the above, NITI Ayog has decided to focus on five sectors that are envisioned to benefit the most from AI in solving societal needs: i.e.....

- a) Healthcare: increased access and affordability of quality healthcare,
- b) Agriculture: enhanced farmers’ income, increased farm productivity and reduction of wastage,
- c) Education: improved access and quality of education,
- d) Smart Cities and Infrastructure: efficient and connectivity for the burgeoning urban population, and

e) Smart Mobility and Transportation: smarter and safer modes of transportation and better traffic and congestion problems.

The AI ecosystem is rapidly evolving and taking societies into uncharted territory. For now, we can begin to ask some of the big questions that each society must answer for itself: are we ready to manage data ethically? How do we bridge the digital divide? Which innovations are worthy of public funds and partnerships? Bringing these questions into the open is the most important step in ensuring that AI advances create a better society

At the international level, a lot of activity concerning AI policy in different countries is already on. Governments in the USA, UK, France, Japan and China have released their policy and strategy papers relating to AI. With many industries aggressively investing in cognitive and AI solutions, global investments are forecast to achieve a compound annual growth rate (CAGR) of 50.1% to reach USD57.6 billion in 2021.

India to establish a leadership role and India needs to take the plunge and start by releasing a Strategy Paper to initiate the roll-out of an ambitious programme that would ensure for India its rightful place in this transformational era.

Considering the current relevancy of the theme which is aligned with national agenda (*in line with the recommendation four, Spreading awareness on the advantages AI offers, Discussion Paper, National Strategy for Artificial Intelligence, NITI Aayog2018*) and the objectives of VP of science communication and popularization, it is proposed to produce a 52-episode radio serial on AI. The objective, thrust area, target group and other details will be as follows:-

2. Objectives of the proposed radio serial are:-

- a) Create awareness about the emerging world of AI and its potential use for enhancing the economic growth and solving the societal problem.
- b) Promote academic interest among the science student about AI to take up this area as a carrier option.
- c) Highlight the science and scientific thinking facets of the AI in a simple and understandable manner.
- d) Optimize on the reach radio provide.

- e) Importantly bring several prominent subject experts, technologists and the planners to speak about the depth and spread of AI, the research being undertaken, India's priorities and the social and economic implication of the AI and the role AI can play to achieve the intended goals.
- f) VP will derive the best to play out of its experience through the radio by engagement with experts and dedicated listeners groups in addition to large nationwide reach it can achieve; as in the past.

3. Target group/groups:

Citizens, civil society awareness facilitators, and managers.

4. Proposed thrust areas for the serial episodes

- a) Understanding the science of AI and the fourth Industrial/economic/social revolution.
- b) The potential of the AI.
- c) Research in AI in India, and across the world.
- d) Emerging Ecosystem of R&D in AI in India.
- e) The world of AI and literature (science fiction,...novels, stories etc.)
- f) Uses of AI in Industrial and Social sectors (like Health, education, agriculture, communication, transportation, etc.).
- g) AI and the futuristic society (Smart cities & Infrastructure, Smart Houses, Transport etc.
- h) AI and the apprehensions. (The threat of AI...Stephen Hawking)

5. Special Features of Radio Serial

- a. Produce 52 standalone thematic episodes
- b. Each episode of 27 minutes
- c. Docudrama/feature format.
- d. Produce in 19 Indian Languages simultaneously.
- e. Broadcast from more than 124 AIR Stations (MW and FM both) simultaneously
- f. Audio Programmes made available for sale after the broadcast

6. Tentative Structure of the Episode

- i. Emphasis on Science of AI.
- ii. AI versus human. Preparedness to face the challenge
- iii. Global and Indian initiatives/research in AI
- iv. Importance of AI and its potential uses to meet the social and economic goals of India.
- v. Success stories
- vi. Application of technologies
- vii. One focused message in each episode

7. Tentative Title of the Serial

1. **Welcome Tomorrow** (In English)
2. *Aane Wala Kal* (In Hindi)

B.K.Tyagi (Scientist-F)