



web: [www.issi.org.pk](http://www.issi.org.pk)  
phone: +92-51-9204423, 24  
fax: +92-51-9204658

## *Report – WebTalk*

# **“Artificial Intelligence for Socio-Economic Development in Pakistan”**

**April 26, 2022**



*Compiled by: Ghazala Jalil*

*Edited by: Malik Qasim Mustafa*

The Arms Control & Disarmament Centre (ACDC) at the Institute of Strategic Studies Islamabad (ISSI) organised a Webtalk on “Artificial Intelligence for Socio-Economic Development in Pakistan” by Dr Yasar Ayaz, Chairman, National Centre of Artificial Intelligence (NCAI), NUST on April 26, 2022. Dr Munam Ali Shah, Associate Professor Department of Computer Science, COMSATS, Islamabad was the discussant at the Webtalk.

In his welcome remarks, Ambassador Aizaz Ahmad Chaudhry, Director General ISSI, said that Artificial Intelligent (AI) has helped humans perform tasks faster from recognising speech and using stored memory and responding to requests, to an ATM that interacts with humans to buying an airline ticket on a computer or machine, to the use of robots to do things with much greater speed and efficiency. AI can work at a phenomenal speed and make our workplaces more efficient. It has brought a revolution to the modern world. Ultimately AI can be used for tremendous socio-economic development. However, he expressed concern over the potential to weaponise AI technology for military purposes. AI is a dual-use technology that humans can choose to use for the betterment of humanity or for destructive purposes.

Earlier in his introductory remarks, Malik Qasim Mustafa, Director ACDC, said that AI is widely accepted as the major driving force of the fourth Industrial Revolution and it has the potential to bring socio-economic development to a country. The COVID-19 pandemic has shown us how digital technologies and AI-based models have addressed public health management challenges. He said that AI could play a substantive role in achieving 17 UN Sustainable Development Goals (SDGs) that are the building blocks of the 2030 agenda for sustainable development. Hence, it is high time for Pakistan to harness AI for its Socio-Economic Development, as AI can play a major role in urban planning and monitoring, smart

cities, precision agriculture and food production, water resource management and the health sector.

Dr Yasar Ayaz said, “AI is as important as electricity.” There is no system hardly any system that works without electricity. So in the future, there will not be any systems that work without AI. He said that AI has many uses today and some potential dangers as well. He highlighted the achievements and ongoing efforts of various research labs in the field of healthcare, medical image analysis, disaster management, Urdu speech recognition, crowd management, vehicle recognition system, firearm detection system and advanced driver and training assessment system.

Talking about his research work in AI, he said his team created a humanoid robot that could play soccer and became Pakistan’s first team that qualified to become part of the robotics World Cup. He also talked about his work on creating prosthetic legs and arms as well as a wheelchair using AI technology. Emphasising that about one-sixth of the world population is disabled in one way or the other, he said that AI and Robotics Technologies could bring all these people into the mainstream where they can start working like normal human beings. Thus, AI has the potential to bring betterment to these people and contribute to a country’s socio-economic development.

Dr Ayaz highlighted the uses of AI in Pakistan in the judiciary, for example, to dispense justice faster and for law enforcement to make cities safer for the safe cities project. AI systems have resulted in apprehending actual suspected persons in crowded places, like cricket matches. It is also helping in anti-terrorist operations. AI is, thus, already made an immense contribution to Pakistan. He also highlighted the work of NCAI, NUST, which is working across Islamabad, Karachi, Lahore and Peshawar and has nine labs that are working in diversified fields such as

diagnostics, healthcare, disaster management and environment protection, trends of the climate prediction, Global Climate Change, traffic management, reducing electricity consumption, as well as the COVID-19 management and counterterrorism.

Talking about international trends in AI, he said that the worldwide spending on AI systems would reach US\$77.6 billion in the year 2022. China has declared that it is investing US\$150 billion into AI, US\$300 billion, the UK US\$1 billion and India US\$477 million by the year 2030. In comparison, Pakistan has modest resources and is only investing about US\$10 million. While talking about the access of developing countries to these technologies, he said that in terms of AI infrastructure, the developed world is leading the race. However, the developing states are actively contributing their part to software development.

He concluded by saying that AI is the way to the future. It has contributed to socio-economic development worldwide and it is also contributing tremendously within Pakistan. There is a need to develop the AI sector, harness its potential as well as further invest in it.

While expressing his views on the importance of data for AI, Dr Munam Ali Shah, Associate Professor Department of Computer Science, COMSATS, Islamabad, said that AI systems in every field rely heavily on big data and data analytics. There is a need to develop a data management system at the national level for efficient and intelligent use of data. About two decades ago there were hardly any computers being used by ordinary people. Now everyone has a computer or a smart device. Now with the use of the internet, a large amount of data is being produced and it needs to be processed. With the COVID-19 patients, we have a lot of data. In addition, in Pakistan with a population of over 200 million and almost 63 per cent of the population comprised of young people, there is potential for the development and processing of

data. He said that there are a lot of opportunities here but there is also some decision-making needed. During the COVID-19 pandemic, AI helped a lot and opened many doors. Many businesses have flourished including online shopping and video streaming.

Talking about future trends, Dr Munam Shah said that there is a lot of potential for AI in education, employment and road safety. Also with a large young population on social media, the data can be used to assess trends and their education needs and the government can use that data to offer vocational training and other educational opportunities. In Pakistan, there is data and technology, what is lacking is the processing and use of data for the betterment of the country.

The presentations were followed by an interactive question-and-answer session. Questions included the tremendous potential for AI use in the future and how we can promote it in Pakistan. Especially how can we educate and train the youth; What are the prospects for international collaboration and whether the leaders in AI across the world are willing to share and collaborate in AI technologies; the possibility of misuse of AI; the major challenges in Pakistan's regulatory or policy framework about AI innovation and growth and Pakistan's gaps for promoting secure and reliable AI?

The speaker responded that there is a disparity globally in access to AI technologies. Not all developing countries have equal access to facilities in which AI can be processed. However, they emphasised that the world is very closely knit today and each other progress benefits all countries. They suggest collaborative groupings like the EU where there can be collaboration. They said that we have to realise in our region that we have to promote peace and develop inclusive technologies, which enable people to work in a mainstream. In a closely-knit world, mutual collaboration and support are the way forward.

Speakers also said that there is a standardised curriculum for the AI Master and PhD within the country that is applied throughout Pakistan. There are certification programmes to meet the need of the market, short-term training from five days to two weeks, then there is also training to convert conventional computer science professionals into proper AI professionals through four monthly diplomas or certification programmes. Pakistan needs to produce AI professionals at a fast rate. Hence quick certifications and conversions of computer professionals into AI professionals. This is done in collaboration with the industry and many prominent companies are part of this initiative and working together.

As for the international regulatory regime to prevent the misuse of both cyber power and AI, speakers said that UNESCO is already developing a document, which is a standard-setting instrument for AI. This can serve as a guideline but it is not possible to make a central law for example, which can be implemented in all countries to follow.

Regarding the misuse of AI, the speakers said that there are good and bad aspects of every technology. The important thing is to keep the flow of technology in check and to make sure that they are in the right hands. AI if not in responsible hands can be misused.

In his concluding remarks, Ambassador Khalid Mahmood, Chairman BoG ISSI, stated that AI is a double edge sword. It could be used for military purposes or to accelerate progress toward socio-economic development. He also highlighted key concerns like human-machine interaction, protection of human rights and the global digital divide. AI like all technologies have its negative side if misused and its positive side. Overall the impact of AI technologies is positive as is apparent in its use during COVID-19. AI has been found beneficial in the field of energy, education and the financial and health sectors. Greater use of AI technology will help progress

toward reaching the 17 SDGs set by the UN. Talking about the downside of AI technology, he said that progress in AI is slow in developing countries and it is likely to accentuate the digital divide worldwide. Even within countries, there may be a disparity. He also expressed concern with the potential to weaponise AI technologies, which can be harmful to humanity. He emphasised the need to regulate AI technology.

### Pictures of the Event

