

AI for Good Global Summit 2019

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Abstract

AI for Good Global Summit 2019 (the AI Summit), an international artificial intelligence (AI) event hosted by ITU (International Telecommunication Union) in partnership with various United Nations agencies, was held May 28–31, 2019 in Geneva, Switzerland. The AI Summit has been held since 2017, and more than 150 projects have been launched for the practical application of AI. I give an outline of the AI Summit and discussion of AI for Health, one of the themes of 2019.

Keywords: AI, SDGs, innovation

1. What is the AI for Good Global Summit?

AI for Good Global Summit (the AI Summit) is an international event on artificial intelligence (AI), which brings together various governments, industries, academia, media, plus 37 United Nations (UN) agencies, the American Society for Computer Information Science (ACM), and XPRIZE Foundation* as partners [1]. It has been held annually since 2017. In 2019, more than 2000 people from 120 countries visited, more than 7000 people participated via the web, and more than 300 speakers attended, making it the largest ever (**Fig. 1, Table 1**).

The background of the conference is that ITU (International Telecommunication Union) and the UN consider that AI, which has made rapid progress in recent years, has great potential to solve social problems and accelerate the progress of UN Sustainable Development Goals (SDGs). Through active discussions in a wide range of fields such as education, medical treatment, health and welfare, commerce, agriculture, and space, as well as the creation of collaborative projects among industries, governments, and academia, we are aiming to commercialize AI that will accelerate the achievement of the SDGs.

In 2017, we started a global dialogue on the potential of AI, and in 2018 we went further and launched a project to develop AI solutions to support the achievement of the SDGs. In 2019, we set the goal of accelerating collaboration for the practical application of AI by connecting AI innovators with public and private sectors that are experiencing problems.

Specific projects are expected to be launched. In 2018, the AI repository was established, and over 150 projects have been registered (**Table 2**).

2. AI for Good Global Summit 2019 topics

Specific themes are set for the summit each year, and distinguished speakers from various organizations give lectures on related topics.

2.1 Program configuration

The main program is a thematic session aimed at launching a project called Breakthrough Sessions. Four to five themes are set every year. In 2019, five events based on five different themes were held simultaneously: 1) AI and Health, 2) AI and Education, 3) AI and Human Dignity and Equality, 4) Scaling AI, and 5) AI for Space.

2.2 Main opening lectures

(1) Houlin Zhao, ITU Executive Director

AI changes our lives; thus, the road to safe, reliable, and comprehensive AI requires unprecedented collaboration among governments, industries, academia, and civil society. The AI Summit is the main UN platform for AI dialogue, working with partners worldwide to ensure the reliability, security, comprehensive development, and fair access to the benefits of AI technology.

* XPRIZE Foundation: A nonprofit foundation that helps innovators worldwide organize public competitions intended to encourage technological development that could benefit humanity.

Main stage



Main hall



Entrance



Fig. 1. Images of venue.

Table 1. Overview of AI for Good Global Summit.

Period	3–4 days in May or June every year	
Venue	International Conference Center Geneva	
Host	ITU	
Cooperation	XPRIZE	ACM
UN partners	37 organizations including WHO and UNICEF	
Summary	<ul style="list-style-type: none"> • UN platform for a global and comprehensive dialogue on AI to achieve UN Sustainable Development Goals (SDGs) • 4–5 themes (Breakthrough Sessions) held simultaneously 	

ITU: International Telecommunication Union
 UNICEF: United Nations Children's Fund
 WHO: World Health Organization

(2) Petteri Taalas, Secretary-General of the World Meteorological Organization (WMO)

WMO handles big data daily and operates a 24-hour, 365-day operation-prediction system based on the huge amount of data collected worldwide. The goal is to create a new project at the AI Summit so that everyone has secure access to this system.

(3) Amir Ansari, CEO of XPRIZE

AI and data are fundamental tools for addressing the largest challenges facing humanity. I discuss the unexpected consequences of the AI revolution and suggest actions to take for likely solutions.

(4) ACM Chief Executive Officer (CEO) Vicki Hanson

By bringing together AI engineers and government and industry leaders, we can propose new methods of applying AI to pressing global issues. I hope these

computing technologies will help solve tomorrow's problems, develop careers, and make a positive impact on society.

3. Keynotes and notable programs

(1) Jean-Philippe Courtois, Microsoft Executive Vice President and President of Microsoft Global Sales

“All companies will be software companies in the future. At the center of this transformation, AI will become a new generation of business agents and specialists, while enabling the detection of people, goods and activities.” He gave an example of a project to improve agriculture by using data collected with drones and sensors based on AI, Internet of Things (IoT), and the cloud called “Farm Beats.”

Table 2. AI for Good Global Summit 3-year comparison.

Year	2017	2018	2019
Purpose	Comprehensive global dialogue on AI	Developing AI solutions to help achieve SDGs	Practical application of AI to accelerate achievement of SDGs
Achievements	Configuring AI repository; inauguration of FG-ML5G	35 project proposals; inauguration of FG-AI4H	Two education projects launched; other projects to be launched in future
Themes of Breakthrough Sessions	<ul style="list-style-type: none"> ① Privacy, Ethics & Societal Challenges ② Capacity Building & Poverty Reduction ③ Common Good & Sustainable Living ④ Investment, Economic Aspects & Designing the Future 	<ul style="list-style-type: none"> ① AI & Smart Cities and Smart Communities ② AI & Health ③ The Eye in the Sky: Space, AI & Satellite ④ Trusting AI – Will Mankind Master the Machine, or Vice Versa? 	<ul style="list-style-type: none"> ① AI and Health ② AI and Education ③ AI and Human Dignity and Equality ④ Scaling AI ⑤ AI for Space
Speakers	Over 70	Over 150	Over 300
Participants	More than 500; more than 5000 (web)	More than 700 from 49 countries; unknown number of web participants	More than 2000 from 120 countries; more than 7000 (web)
Media	45 journalists; cumulative audience of over 100 million (multilingual); SNS, etc. over 3 million	More than 40 journalists; cumulative audience of over 1 billion (multilingual); broadcast through nearly 1000 media outlets	More than 40 journalists; cumulative audience of over 1.3 billion (multilingual)

FG-AI4H: Focus Group on AI for Health

FG-ML5G: Focus Group on Machine Learning for Future Networks including 5G (fifth-generation mobile communications)

SNS: social networking service

He also introduced three programs aimed at solving social problems using AI: 1) AI for Earth (environmental measures), 2) AI for Accessibility (support for people with disabilities), and 3) AI for Humanitarian Action (fostering leaders through AI business schools) and announced that the company contributed 115 million US dollars for these programs. Microsoft's own AI principles were proposed and its innovative initiatives using AI were presented.

(2) American inventor and businessman Ray Kurzweil

Known for his book “The Singularity Is Near,” in which he accurately predicted technological progress, he gave his presentation as the closing keynote on the first day of the AI Summit from a remote location. He showed original statistics and predicted that “The future will be improved by the advance of AI. Progress in science and technology is not linear but exponential. When we connect to the cloud, we will have an enlarged brain and 100 times more intelligence.”

4. Breakthrough Session AI for Health

There were five sessions in progress at the same time, and I participated in AI for Health related to health and welfare, which is a topic of great interest

in Japan. As a result of the AI Summit in 2018, the Focus Group on AI for Health (FG-AI4H) was started in order to integrate the information and communication technology (ICT) know-how of ITU and the health know-how of the World Health Organization (WHO). To cope with health problems, such as breast cancer, Alzheimer's disease, and eye and skin diseases, the group is aiming to develop a framework for evaluating AI-based methods for health and international standardization.

(1) Welcome session

Chaesub Lee, Director of ITU Telecommunication Standardization Bureau, said that the important mission of FG-AI4H is to establish best practices in accessing and appropriately using health data and called for participation in an open platform.

WHO Chief Information Officer Bernardo Mariano described the flow of data in healthcare, and Wolfgang Lauer, head of the Pharmaceutical Research Institute, Federal Ministry of Health, Germany, described the importance of a balance between value creation and data protection and introduced guidelines on cybersecurity measures for medical apps and devices.

Thomas Wiegand, Fraunhofer Institute Executive Director and Chair of FG-AI4H, pointed out that FG-AI4H has 11 topic groups that carry out their activities

Table 3. Overview of Breakthrough Sessions for 2019.

AI and Education	AI and Human Dignity and Equality	Scaling AI	AI for Space
<ul style="list-style-type: none"> Two programs announced as a result of the summit (1) World's largest family AI education program: program for 8000 parents and children and 150 educators (2) World's largest AI mentoring program: practical program that makes learning AI easier for 1000 education professionals 	<ul style="list-style-type: none"> Premise is that public and private sectors will work together to develop strategy to ensure that AI is developed and integrated into workforce. Declares policy guidance to protect AI and child rights Plans to open related site "Technolades" 	<ul style="list-style-type: none"> Leverages open platforms and new technologies to share data and models Collaborates with human resources of multiple stakeholders with various skills Addresses poverty and climate change; 50 projects will be launched in 5 years through cooperation with 100 countries. 	<ul style="list-style-type: none"> Massive amounts of space data can help monitor weather events and address climate change. Finds common consensus on data requirements for successful AI in space Takes first step toward agreement on broad principles of AI and space governance

in 5 steps: 1) community formation (collection of experts), 2) proposal, 3) evaluation (establishment of reference data and evaluation criteria), 4) publication of reports, and 5) popularization and development (practical application of AI healthcare solutions) of activities. These topic groups focus on 5 points: 1) performance measurement, 2) robustness, 3) uncertainty, 4) explainability, and 5) generalizability to cover in quality control of AI solutions.

(2) Personal healthcare and AI

Hadas Bitran of Microsoft Israel Health Care gave examples of healthcare bots and diagnostic chats that leverage AI, and Jonathan Carr-brown of YourMD presented health management solutions that provide appropriate primary care and showed the potential of AI to support diagnostics at low cost. Ada Health executive director Hila Azadzoy showed that 400 million people worldwide do not have access to primary care services and that the consultation time in China is only 2 minutes. He introduced a health management application developed to solve these problems in 5 languages in 130 countries. Yan Huang, Senior Director of AI Health Care at Baidu, announced that in the face of the imbalance of patients that have and do not have access to advanced medical care, the company developed a clinical decision support system to support physicians in less privileged areas, which is 95% accurate.

(3) Research and policy in AI

Liz Asai, CEO of 3Derm Systems, presented a unique skin-imaging system that uses AI to classify different types of skin cancer on a level comparable to dermatology, concluding that diversity of data sets is essential to cover different ethnic groups. Khair ElZarrad of the US FDA Food and Drug Administration (FDA), who publishes a report that collects clinical practices and patient data, highlighted the

importance of data utilization in healthcare, including early development to ensure data quality, and the importance of communicating with regulatory agencies. Dr. Bitran of Microsoft Israel Health Care introduced an AI-equipped system called *Project EmpowerMD* that supports physicians and stated that the company promotes automation of clinical documentation to improve the system and emphasized the need for collaboration with relevant departments.

(4) AI for Health session summary

AI and data utilization are inseparable, and the importance of high-quality data was a common concern throughout the discussion. AI and data utilization complement the shortage of human resources in healthcare and are useful for providing cloud-based health management, online consultation and diagnosis, etc. However, to ensure the safety of patients, the necessity of a benchmark in which a large amount of data is linked across multiple organizations and is appropriately managed was highlighted again. FG-AI4H has announced that it will play a central role in providing healthcare apps that use AI and will work to standardize AI algorithms and frameworks for addressing health issues and treatment.

(5) Overview of other Breakthrough Sessions

Table 3 summarizes the other sessions that took place at the same time as the AI for Health session.

5. Closing

Chaesub Lee, Director of ITU Telecommunication Standardization Bureau, Doreen Bogdan-Martin, Director of ITU Telecommunication Development Bureau, and Anousheh Ansari, CEO of Space Ambassador of XPRIZE Foundation, raised the issue of "The Other 50%," explaining that half of the world, mainly developing countries, do not benefit from

Table 4. Sponsors & partners.

Grade	Company	Association
Platinum sponsor	Microsoft	
Gold sponsors	PwC (consulting firm)	ACM, The Key Family Foundation (USA), Autonomous Drivers Alliance
Silver sponsors	Deloitte (consulting firm)	Zero Abuse Project
Bronze sponsor	LiveTiles (consulting firm (USA))	
Supporters	TECHNOSSUS (consulting firm), Stradigi AI (AI company (Canada))	Fondation BOTNAR (Swiss foundation)
Content partners	IVOW (storytelling agency (USA)), Access Partnership (specialists in public policy (UK))	IEEE, Montréal City, DiploFoundation (Malta & Switzerland), STATE (foundation in Berlin), Swissnex Network (innovation collaboration (Switzerland)), NETHOPE (US nonprofit organization), Université De Genève, EPFL (technical college (Switzerland)), DEEP (open platform), Foraus (Swiss think tank), Idiap Research Institute (Switzerland), JIPS (profiling service (Switzerland))

ICT and declared that ITU and XPRIZE Foundation would collaborate to resolve this problem in 20 to 30 years. They called on the participants to voice their ideas and opinions.

Houlin Zhao, Director General of ITU, concluded, “The AI Summit is a unique event that brings together stakeholders from multiple disciplines around the world to seriously consider how AI can be applied and support a wide range of issues. Aligning with the SDGs means that AI positively impacts human health and provides quality education for all students.”

6. Conclusion

The advantages of participating in the AI Summit are as follows: 1) having contact with AI innovators, enterprises, and municipalities that want to use AI, 2) actively discussing issues through participation, 3) starting projects with the approval of the people concerned with the particular topics (recommended by ITU), and 4) expecting support from various sponsors. Not only the power of the organizers (ITU, UN, and XPRIZE Foundation), but also the existence of sponsors is considered to be a significant advantage. As you can see from the list of sponsors and partners

in **Table 4**, half are well-funded foundations organizations, and consulting companies whose mission is open innovation or collaboration, and participants may be able to raise funds from them through effective proposals.

Since Microsoft was the only platinum sponsor, the keynote by Mr. Courtois had a significant impact. They had a large presence such as a booth exclusively for the company and participating in multiple presentations. However, not all companies and organizations had such a large presence. There were many solutions for which Japan seemed to be best placed set to suggest; however, there were no exhibitions or lectures by Japanese companies, and there were few Japanese visitors. For next year’s fourth meeting from May 4 to 8, I would like to encourage Japanese companies focused on the global market and Japanese local governments with advanced solutions for problems to participate through the Telecommunication Technology Committee (TTC)’s working groups and study group activities.

Reference

- [1] Website of AI for Good Global Summit, <https://aiforgood.itu.int/>

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She received a B.S. in mathematics from Tokyo Woman's Christian University in 1997 and an MBA from Yokohama National University in 2014. She joined NTT as a system engineer in corporate sales in 1997 and was in charge of designing and building large-scale information systems, including one for the National Museum of Emerging Science and Innovation. She collaborated with various companies as an alliance strategist from 2002 to 2006. Among her accomplishments, she devised a tablet service that originated in Japan and initiated a project in the product development division in 2009. She was in charge of training planning and labor management for 100 young technical employees as a manager from 2010 to 2012. She was temporarily transferred to the Center for International Public Policy Studies (CIPPS), where she engaged in policy recommendation. She returned to NTT EAST in 2015 and worked as a sales manager for the Kanagawa area. She took up her current position in 2018.

Books authored: "Individual Number Card, Pioneering the Future" (contributed as a member of Nomura Institute of Capital Markets Research), "Medical Care and Individual Number Card" (co-author), and "Japan's Growth Strategy Considered in 10 Points" (co-author).
