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"Exploring the Impact of Generative AI on Education and Research"

Organizer: Atsumi International Foundation Sekiguchi Global Research Association (SGRA)

August 10th (Saturday) 2024, 9：00-12：30

Language: English

Venue: Chulalongkorn University [401-18&19] room | Free admission

Abstract/Overview

This round table discussion delves into the implications of Generative Artificial Intelligence (AI), especially in the fields of higher education and research. With humanity on the brink of a technological revolution, there has been debate about the ways in which Generative AI is set to reformulate the governing paradigms of academic and research practices.

Participants will discuss Generative AI concepts and tools, exploring their potential to support human work, transform content creation, and amplify the efficiency of education and research processes. Ethical considerations surrounding AI deployment in academic settings will be examined, emphasizing responsible use and addressing concerns related to bias and accountability.

Moreover, the dialogue will elucidate how Generative AI can cultivate interdisciplinary collaboration, fuel innovative thinking, and unlock novel avenues for academic exploration. Case studies illustrating successful Generative AI implementations in educational and research contexts will be discussed.

The round table aspires to provide up-to-date understanding of how Generative AI is poised to redefine the landscape of higher education and research, challenging traditional norms, and paving the way for a future where technology serves as a catalyst for the advancement of human society.

9：00   Overview by Chair

Dr. Naiwala P. Chandrasiri
Professor at the Faculty of Informatics, Kogakuin University, Tokyo.

9：05   Speech 1

Dr. Danushka Bollegala
Professor at the Department of Computer Science, University of Liverpool

"Opportunities and Challenges of LLMs for Scientific Research"

Large Language Models (LLMs) power the Generative Artificial Intelligence (Generative AI) systems such as ChatGPT by OpenAI and Gemini from Google, to name a few. These LLMs are trained on massive datasets and contain billions of parameters. They have already reported impressive performance in various tasks that were previously considered to be challenging for AI.

From the viewpoint of conducting research in computer science, LLMs bring various opportunities such as automatic generation of labelled data, cheaper yet accurate evaluation metrics that do not require human interventions, and generalized models that can easily adapt to diverse domains and languages with zero- or few-shot examples. Such opportunities have expedited the progress of scientific research in AI. However, LLMs are also associated with unfair social biases and hallucinations, which must be carefully considered when they are being used for scientific research.

In this talk, I will first describe the process followed when training LLMs, and explain the research conducted by my group at the University of Liverpool to overcome some of the challenges in LLMs.

9：35   Speech 2

Dr. Wirote Aroonmanakun
Associate Professor at the Department of Linguistics, Faculty of Arts, Chulalongkorn University, Bangkok

"Opportunities and Challenges of Generative AI for Education"

Generative AI is revolutionizing education through interactive learning and providing answers to various questions, leading schools to rethink their teaching strategies. AI offers a valuable resource for students seeking to deepen their understanding and grasp complex concepts. However, it may also serve as a shortcut for students aiming only to pass exams, with less emphasis on personal learning. This divide highlights a potential future where society is split between those skilled in AI collaboration and those who are not, underscoring the urgency for educational reforms to integrate AI learning effectively. Moreover, Large Language Models like GPT-4 demonstrate significant linguistic capabilities, extending beyond English to include languages with scarce training data, such as Thai.

The expected transference of AI's linguistic competence to Thai illustrates that AI's impact on education is a worldwide phenomenon, influencing a broad spectrum of languages.

10：05　Discussion

Moderator	**Dr. Naiwala P. Chandrasiri**
Speaker 1	**Dr. Danushka Bollegala**
Speaker 2	**Dr. Wirote Aroonmanakun**
Discussant 1	**Dr. Ryan Rashotte** Assistant Professor of English at Temple University, Tokyo
Discussant 2	**Dr. Vlaho Kostov** R&D Executive Engineer at Panasonic
Discussant 3	**Udana Bandara** Senior Research Scientist at Rakuten Institute of Technology

10：35　Coffee Break

11：00　Discussion & Q&A With AUDIENCE at Floor

Rapidly evolving AI technology continues to profoundly impact people's lives. Amidst the ongoing evolution propelled by scientific advancements, transdisciplinary issues arise across various fields—from war to social disparities, labor, human rights, and ethics—that cannot solely be addressed by science.

Considering the anticipated rapid changes in science and technology, including AI, it is crucial to engage in the practice of science communication before their societal implementation. This entails contemplating how to create a society where science and technology coexist harmoniously. Given the current scenario, there is a need for discussions on issues arising from scientific advancements and dialogues about the science and technology desired by citizens. Workshops utilizing art thinking and forward-looking approaches are believed to be effective in this regard.

Engaging in proactive dialogues about envisioning the future fosters empathy and sensitivity towards others in a society with diverse values. In addition to presentations from various fields at roundtable discussions, participation in workshops enables attendees to understand cutting-edge technologies better and empowers them to autonomously choose their way of life. Workshops are aimed at visualizing diverse values and working towards realizing a better society. Let's envision the future together.

12：20　Closing Remarks

Dr. Naiwala P. Chandrasiri

To make this Roundtable Discussion more interesting

Please respond to the questions below in order to help us get an idea of your interests and to prepare for the workshop. Thank you in advance for your participation!

➡️ https://forms.gle/ApUmWZd4rTuSh5Z18

Coordinator / Moderator: Dr. Naiwala P. Chandrasiri

Naiwala P. Chandrasiri is currently a Professor at the Faculty of Informatics, Kogakuin University, Tokyo.

He earned a Ph.D. degree in information and communication engineering from the University of Tokyo, Tokyo, Japan, in 2001.

His current research interests include Artificial Intelligence, Computer Vision, Machine Learning, Human-Machine Interface, and Human Communication Engineering.

Dr. Chandrasiri received various awards including the Best Paper Award from the World Multi-Conference on Systemics, Cybernetics and Informatics, USA, in 2001, and the Best Conference Paper (Implementation and Development) from the IEEE International Conference on Cyber Technology in Automation, Control, and Intelligent Systems, Thailand, in 2012. He was the Local Organizer of 10th Asia-Pacific Symposium on Information and Telecommunication Technologies (APSITT 2015), He is a member of IEEE, IEEJ, ITE etc.

Speaker 1 : Dr. Danushka Bollegala

Danushka Bollegala is a Professor at the Department of Computer Science, University of Liverpool and a Scholar at Amazon Search. He obtained his PhD in 2009 from the University of Tokyo, where he subsequently worked as a Lecturer before moving to the UK. He has worked on different topics in NLP such as summarisation, information extraction, meta-embedding learning, and social bias mitigation. He has received multiple awards for his research excellence such as the IEEE Young Author Award and best paper awards at GECCO, PRICAI conferences. He is the Program Chair of *SEM 2024, Demo chair for ACL 2023 and acts as a Senior PC for top-tier international venues such as ACL, EMNLP, IJCAI, AAAI etc.

Speaker 2 : Dr. Wirote Aroonmanakun

Wirote Aroonmanakun is an associate professor in the department of Linguistics, Faculty of Arts, Chulalongkorn University, and the director of Sirindhorn Thai Language Institute. He was awarded the National Outstanding Researcher Award 2023 from the National Research Council of Thailand for his expertise in Thai corpus and language processing research. He has been a key contributor to the development of the Thai National Corpus and has played a pivotal role in the creation of essential tools for Thai language processing, notably the TLTK Python package.

Discussant 1 : Dr. Ryan Rashotte

Ryan Rashotte is the Director of Learning Support Services and an Assistant Professor of English at Temple University Japan. He has a PhD in English from the University of Guelph, Canada. Among other research subjects, he is interested in the uses of generative AI in academic and aesthetic contexts. He is also at work on his second monograph about North American exploitation cinema.

Discussant 2 : Dr. Vlaho Kostov

Dr. Vlaho Kostov is an R&D Executive Engineer at Panasonic, Head of CEE and Mediterranean region, Chairman of the Board of Directors of CI+ LLP. He represents Panasonic in several management boards of industry consortiums and associations. He has more than 20 years of expertise in Consumer Electronics, Telecom, and Automotive industries within the private sector, the public organizations, and academia.

Dr. Kostov obtained his Ph.D. at the Tokyo Metropolitan Inst. Of Technology, where he also worked as Associate Professor teaching Project Management and Communications (in English and Japanese).

Discussant 3 : Udana Bandara

Udana Bandara is a Senior Research Scientist at Rakuten Institute of Technology, part of Rakuten Group Inc., Tokyo, Japan. He earned his Master's degree from the University of Tokyo and focuses on Human-Computer Interaction, workplace well-being, and causality. Currently, he leads research on integrating Generative AI in the workplace to boost productivity and well-being at Rakuten Group. Bandara's contributions have been recognized at international forums like ACM Ubicomp, ACM IUI, and IEEE CVPR. He holds 7 US patents and 10 Japanese patents in HCI, mobile computing, and e-commerce.

Workshop director : Dr.Hyunjung PARK

Hyunjung Park is a Ph.D of Fine Arts, born in South Korea, lecturer at Hokkaido University's CoSTEP (Communication in Science & Technology Education & Research Program), and artist. She studied art at the Korea National University of Arts and Musashino Art University Graduate School. Through the camera's lens, she observes and documents objects and phenomena at various boundaries such as between words, life and death, time, nations, science, and art. She has engaged in research and education in science communication through art.