Special Issue on **"AI e-Learning and Online Curriculum"**

Artificial intelligence (AI) education is not future work; it is a current important issue for young students to understand the application and usage of AI in their daily life. AI is so-called machine intelligence, implying using computer capacities to achieve human intelligence as far as possible. With the advancements in hardware processing speed, the application of AI in education contexts is growing at a tremendous rate. Therefore, we must explore the research and improvements in machine learning and intelligence in educational systems right now. When the courses, curricula or tools used for AI education can be provided open access worldwide, the idea of "Changing the world with one application" is possible. In fact, AI technologies have been researched in educational contexts for around 50 years. How exactly can AI work in classrooms, and what can be achieved? None of the above-mentioned is yet clear, so it is necessary to develop more AI education curricula and open learning tools for students to experience AI education, regardless of their age.

MIT professor, Hal Abelson, one of the guest editors of this issue, has emphasized the importance of "computational action," which means carrying out calculations and solving our daily-life problems. It is true that computers can now beat humans at chess, while it is possible to combine more than one computer and human to work together so as to be more effective than either alone. Due to the convenience of distributing the learning content on the web, a previous study has explored the fundamental roles and practical imparts of AI on the next generation web-related products, systems, services, and activities. For example, Google has upgraded its no-coding, in-browser AI trainer to make teachable machines more functional. In terms of the role of AI in classroom and distant learning, the development and application of AI to be a tutor, peer or tutee is also an important issue.

Scholars have noted various future applications of AI in education and the possible problems that will confront the wide scale implementation of these technologies in the classroom, so it is still very urgent to look into the latest developments and empirical evaluation in AI education. The scholars have suggested two parallel strands of research that need to take place. One is an evolutionary process referring to a focus on practice at school, and the other is a revolutionary process implying embedding technologies within students' everyday lives. Another scholar expected smart classrooms with sensing of the students' interaction or requirements. We have more and more opportunities to realize those expectations now; in particular, machine learning has been spreading and has been applied extensively in the recent two years. Therefore, an increasing number of countries are concerned about AI

education regardless of K-12 education or higher education or distance learning. The young children of today will live in the future society, so there is growing interest in AI education, both for K-12 and higher education. How can we continue to prepare students for the future? Due to COVID-19 in 2019 and 2020, more and more students learn AI in distance. Scholars have reminded us that the emergence of AI has exacerbated the need to have these conversations. Accordingly, this special issue is interested in studies related to the following themes:

Topics of interest include, but are not limited to:

- Online Learning with AI Application

- AI learning processes and behavior in distance learning

- AI enhanced teaching and learning

- Learning behavioral patterns and analysis in AI e-learning

- Learning strategies of AI education in e-learning environments

- Methods for young students to learn AI in K-12

- Methods for undergraduate or graduate students to learn AI in high education

- The development or application of conversational AI learning systems

- AI instruction or tools in schools

- AI and the Future of Education

- Development of AI curricula or AI-related learning activities

- Empirical study of using AI as a tutor

- Empirical study of using AI as a tutee

- Empirical study of using AI as a peer

- Innovation application of AI integrated into interdisciplinary learning

Important dates

Submission of proposals and abstracts to Guest Editors: August 31, 2020

Approval or suggested changes sent to authors by Guest Editor: September 15, 2020

Deadline for authors to submit full articles: November 15, 2020

Distribution to reviewers & decision by the editors: November 15, 2020 - January 15, 2021

Final manuscripts due by the authors: February 28, 2021

Special Issue Publication: To be arranged

Submission URL and guidelines:

http://www.irrodl.org/index.php/irrodl/about/submissions

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