

## Editorial

Dear readers: Welcome to the second issue of our 2024 SMCS eNewsletter! I cannot believe it is already the end of June! I hope everyone has had a wonderful start to their year!

It is no doubt that the first half of 2024 has seen many advances in AI systems, from multimodal large language models to real-time photo editing directly from our smartphones [1]. In our last issue, we talked about deepfakes, but AI is not all bad. AI can have ground-breaking applications in many fields and is no longer a tool used only by research labs. ChatGPT, for example, has currently 180 million users, with January 2024 alone seeing over 1.6 billion hits [2]. For safety-critical applications, however, existing tools may not yet be ready for “prime time”. Take the recent human-AI teaming report published by the National Academies of Sciences, Engineering, and Medicine [3] in which it states: “Although AI has many potential benefits, it has also been shown to suffer from a number of challenges for successful performance in complex, real-world environments [...], including brittleness, perceptual limitations, hidden biases, and lack of a model of causation important for understanding and predicting future events. These limitations mean that, for the foreseeable future, [...] humans will need to carefully manage AI systems to achieve their desired utility.” As such, human-AI teaming research has emerged an area of extreme importance to society, and will continue to be important for many more years to come. And this is an area in which the SMC Society can make significant contributions to help develop *trustworthy* and *unbiased* solutions.

In this Issue, Dr. Ming Hou (AVP HMS, Defence Research and Development Canada) presents, in a Featured Article, the role of monitoring trust in human-AI interactions. He introduces his IMPACTS model and shows how it can be used to ensure calibrated trust with AI systems over time. In our “Industry Corner” column, we interview Dr. Antoine Fagette, the Product Design Authority for Collaborative Autonomy at Thales Digital Solutions, who oversees the development of collaborative autonomous systems. Dr. Fagette will provide advice for those considering work in the field of human-AI teaming, including several open research problems. Also relevant to this topic, don’t miss the highlights of the 2024 ICHMS/IDEaS events with the theme “Trustworthy Human-Autonomy Teaming” (see the News section).

Next, in the “Student Corner” column, we showcase the work of three SMCS student authors. For News items, we present an SMCS Member Spotlight on Prof. Yo-Ping Huang (VP Conferences & Meetings) and share some excellent news from his university. We also welcome three new SMCS Student Chapters, we provide reports on two Distinguished Lectures, as well as present Calls for Hosting Distinguished Lectures, for SMCS Award Nominations, and for Nominations to the SMC Board of Governors (BoG). Lastly, we present several Calls for Participation and Call for Papers for several SMCS-sponsored events, including a Call for Special Issue papers for the SMCS Transactions on Cybernetics.

I hope you enjoy this June issue of the SMCS eNewsletter. Our editorial team (A. Ávila, L. Dong, J. Dong, C. Lai, D. Paul, W. Qi, and H. Su) worked hard over the last few months to collect material we feel is relevant and of interest to you. If you have any suggestions for improvements, please let us know.

### References:

- [1] <https://www.technologyreview.com/2024/01/08/1085096/artificial-intelligence-generative-ai-chatgpt-open-ai-breakthrough-technologies/>
- [2] <https://seo.ai/blog/how-many-users-does-chatgpt-have>
- [3] National Academies of Sciences, Engineering, and Medicine. 2022. Human-AI Teaming: State-of-the-Art and Research Needs. <https://doi.org/10.17226/26355>.



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