Special Issue: AI for Collective Intelligence

Guest Editors

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The ACM Collective Intelligence Journal invites submissions for a special issue on the topic of AI for Collective Intelligence. The aim of this special issue is to explore how artificial intelligence (AI) can enhance, support, or enable collective intelligence (CI) in various domains and contexts. CI is the phenomenon of groups of individuals or systems acting collectively in ways that seem intelligent, such as solving problems, making decisions, or creating innovations. AI is the field of computer science that studies and develops systems that can perform tasks that normally require human intelligence, such as perception, reasoning, learning, or decision making.

A long tradition in collective intelligence research has studied how technology can support the work of groups, from computer support team work to crowdsourcing platforms. Recently, the rapid development of AI, and in particular generative AI, has brought about a paradigm shift in how humans can work together to access and create new knowledge, organize their work, communicate, and make decisions. With advances in AI, novel use cases have emerged to harness collective intelligence. The special issue seeks to attract research that explores the different avenues in which AI can allow collectives to be more intelligent, for example, through matching workers to tasks, improving communication among workers, or augmenting humans in various ways. Above all, we are interested in submissions that explore how AI can be deployed in ways that put humans in the center, so that the resulting system improves equity, access, social welfare, and wellbeing. This special issue focuses on the new opportunities that AI tools offer to advance collective intelligence to address important problems in science and society.

We are interested in research that addresses the following questions:

- How can AI facilitate human-centered design of systems, interfaces, or interactions that enhance the user experience, satisfaction, or trust?
- Crowdsourcing and labor markets and the implications for the "future of work"
- What are the benefits, risks, and downsides of algorithmic management such as worker-task-matching?
- How can humans and AI work together to accomplish goals that neither of them could accomplish alone, such as the design of better scientific experiments?
- How does the presence of AI affect communication in human teams and how can it be used to improve communication?
- How can AI enable or augment collective human and machine intelligence, such as human-autonomy teaming, human-computer collaboration, or human-AI co-creation? How can AI support or leverage the design and use of open source online communities,

crowdsourcing, innovation contests, or citizen science to address difficult problems such as climate change, other development goals, or public policy debates?
- How can AI model, analyze, or improve the mechanisms involved in collective decision-making or collaboration that enhance various processes or qualities of outcomes such as efficiency, utility, creativity, or inclusivity? This may include work that explores how AI improves human-decision making.

The special issue hopes to attract submissions that represent a cross-section of social and computer science, as well as the natural sciences, arts, and humanities. All types of contributions—empirical, conceptual, theoretical, quantitative, and qualitative—are welcome, including computational models, case studies, experiments, surveys, reviews, or perspectives.

Submission Instructions

Submissions must follow the ACM Collective Intelligence journals submission guidelines (https://dl.acm.org/journal/cola/author-guidelines). Submit your paper to the CI'24 conference on EasyChair (https://easychair.org/my/conference?conf=ci24). Indicate "***AI for CI Special Issue***" below the title on the title page of your submission. Promising papers will be invited to participate in a paper development workshop in conjunction with the CI'24 conference in June 2024 in Boston. Papers that have potential but might require several major revisions to converge will be diverted to the regular journal submissions. Similarly, authors of top quality papers not selected for the special issue for lack of fit will be given the option to resubmit their paper as a regular submission. For more details see the conference website: https://ci2024.weebly.com

Submission Deadline: March 10, 2024.

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