



AI Matters

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Welcome to AI Matters 8(3)

Anuj Karpatne, co-editor & Ziyu Yao, co-editor

Full article: <http://doi.acm.org/10.1145/3583767.3583768>

Welcome and Summary



SIGAI Annual Report: July 1 2021 – June 30 2022

Sanmay Das, Nicholas Mattei, John P. Dickerson, Sven Koenig, Louise Dennis, Larry Medsker, Ziyu Yao, Anuj Karpatne, Alan Tsang & Matt Luckcuck

Full article: <http://doi.acm.org/10.1145/3583767.3583769>

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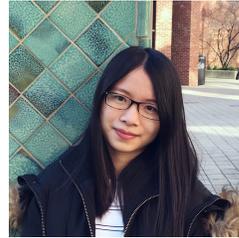
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Issue overview

Welcome to the third issue of this year's AI Matters Newsletter. In this issue, we will summarize the achievement of SIGAI in the past year (June 1, 2021 – June 30, 2022). This annual report will highlight some of the many activities we have completed as a SIG, hoping to provide inspiration for members who wish to get more involved.

Submit to AI Matters!

Thanks for reading! Don't forget to send your ideas and future submissions to *AI Matters*! We're accepting articles and announcements now for the next issue. Details on the submission process are available at <https://sigai.acm.org/main/ai-matters/>.



Ziyu Yao is co-editor of AI Matters. She is an Assistant Professor in the Department of Computer Science at George Mason University. Her research interests lie in natural language processing (NLP) and artificial intelligence (AI), particularly building natural language interfaces that can reliably assist humans in knowledge acquisition and task completion. She also works in NLP/AI for other disciplines such as Software Engineering and Bioinformatics.



Anuj Karpatne is co-editor of AI Matters. He is an Assistant Professor in the Department of Computer Science at Virginia Polytechnic Institute and State University (Virginia Tech). He leads the Physics-Guided Machine

Learning (PGML) Lab at Virginia Tech, where he develops novel ways of integrating scientific knowledge (or physics) with machine learning methods to accelerate scientific discovery from data.



SIGAI Annual Report: July 1 2021 – June 30 2022

Sanmay Das (elected; [ACM SIGAI Chair](#))

Nicholas Mattei (elected; [ACM SIGAI Vice-Chair](#))

John P. Dickerson (elected; [ACM SIGAI Secretary/Treasurer](#))

Sven Koenig (elected; [ACM SIGAI Past-Chair](#))

Louise Dennis (appointed; [ACM SIGAI Conference Coordination Officer](#))

Larry Medsker (appointed; [ACM SIGAI Public Policy Officer](#))

Ziyu Yao (appointed; [ACM SIGAI Newsletter Editor-in-Chief](#))

Anuj Karpatne (appointed; [ACM SIGAI Newsletter Editor-in-Chief](#))

Alan Tsang (appointed; [ACM SIGAI Information Officer](#))

Matt Luckcuck (appointed; [ACM SIGAI Information Officer](#))

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Introduction

We are delighted to share our annual report with membership. This highlights some of the many activities we do as a SIG, and could provide some inspiration for members who wish to get more involved about the types of activities they could participate in or where they feel new initiatives might be most welcome. If you are interested in being more involved with SIGAI or have ideas for future initiatives, please reach out to any or all of the leadership team.

Health and Viability

The membership and financial numbers for SIGAI continue to be strong. We are returning to in-person conferences, while learning how to navigate a world where travel is less of a presumption than it was before the pandemic. Our long-standing and new conferences are doing well in terms of reputation and visibility, and we have continued to maintain new initiative in major awards and several special projects. Our support of activities in AI outreach (especially through our collaboration with AIHub) and joint activities with other major organizations, including AAI, IJCAI, and INFORMS have been a point of continued emphasis. We are excited about the direction of the SIG, and are always looking for new volunteers to support and expand our activities!

Awards

SIGAI presents three 3 major awards annually. Complete details and nomination procedures for all awards are available at the SIGAI awards page: <https://sigai.acm.org/main/sigai-awards/>

The ACM SIGAI Autonomous Agents Research Award is presented for excellence in research in the area of autonomous agents. The recipient is invited to give a talk at the International Conference on Autonomous Agents and Multiagent Systems (AAMAS).

The 2022 ACM SIGAI Autonomous Agents Research Award was presented (virtually) at AAMAS 2022 in Auckland, New Zealand to Professor Maria Gini, Professor of Computer Science and Engineering at the University of Minnesota. Professor Gini has been a leader in the field of robotics and multi-agent systems for many years, consistently bringing AI into robotics. She contributed novel algorithms to connect the logical and geometric aspects of robot motion and learning, novel robot programming languages to bridge the gap between high-level programming languages and programming by guidance, and pioneering novel economic-based multi-agent task planning and execution algorithms. Professor Gini was influential and actively participated with her students in the Trading Agent Competition for Supply Chain. Her work has spanned both the design of novel algorithms and practical applications in warehouses and hospitals, such as surveillance, exploration, and search and rescue. Professor Gini has been an active

member and leader of the agents community since its inception. She is also a consistent mentor and role model, deeply committed to bringing diversity to the fields of AI, Robotics, and Computing, creating a wide spectrum of activities and leading women in computing organizations.

ACM SIGAI also sponsors the ACM SIGAI Industry Award for Excellence in AI, an annual award which is given to an individual or team in industry who created a fielded AI application in recent years that demonstrates the power of AI techniques via a combination of the following features: novelty of application area, novelty and technical excellence of the approach, importance of AI techniques for the approach and actual and predicted societal impact of the application.

The 2022 Industry Award for Excellence in Artificial Intelligence was awarded to Sony's Gran Turismo Sophy(TM), a project developed by Sony AI, Sony Interactive Entertainment and Polyphony Digital. Gran Turismo (GT) Sophy is a collection of agents trained using reinforcement learning (RL) techniques to race in Gran Turismo, a hyper-realistic, physics-based automotive racing simulator. The GT Sophy team developed novel, state-of-the-art RL methods for this purpose. Racing against some of the world's best e-sports drivers, GT Sophy has not only performed at world-class levels, it also won a team event in October 2022 by an impressive margin. GT Sophy has demonstrated that SOTA RL can be applied effectively to continuous control problems requiring performance at the edge of human capabilities, while respecting the informal norms and protocols associated with racing. Apart from the impact on gaming, the technology offers potential societal benefits in areas such as simulation-based training and autonomous vehicle development, among others. The award was presented at the International Joint Conference on Artificial Intelligence (IJCAI) in July 2022, through an agreement with the IJCAI Trustees.

Finally, we also sponsor, jointly with AAAI, the AAAI/ACM SIGAI Doctoral Dissertation Award to recognize and encourage superior research and writing by doctoral candidates in AI. This annual award is presented at the AAAI Conference on AI in the form of a certificate.

The winner of the 2020 AAAI/ACM SIGAI Dissertation Award is Noam Brown, Carnegie Mellon University for his work entitled "Equilibrium Finding for Large Adversarial Imperfect-Information Games." Two runners-up were also honored: David Abel, Brown University for his work entitled "A Theory of Abstraction in Reinforcement Learning" and Abhishek Das, Georgia Institute of Technology for his work entitled "Building Agents that Can See, Talk, and Act." All winners were honored during AAAI-22 in February.

Conference Activity

ACM SIGAI's Meetings have continued to be impacted by Covid-19. This year many meetings were hybrid though we are beginning to see a move towards meetings that are face-to-face only and are considering whether we have a preference between meeting styles.

ACM SIGAI sponsored or co-sponsored the following conferences:

- EAAMO 2021: New to the ACM SIGAI portfolio of conferences!
- ASE 2021
- CSCS 2021
- WI 2021
- HRI 2022
- IUI 2022
- AIES 2022

and it will sponsor at least the following conferences coming up in 2022 and 2023: ASE 2022, EAAMO 2022, WI-IAT 2022, HRI 2023, and IUI 2023.

ACM SIGAI supported the following in-cooperation events covering a wide thematic and geographical range across the international AI community:

- AIMLSystems 2021
- IC3K 2021
- AIVR 2021
- IJCKG 2021
- ICAART 2022
- ICPRAM 2022
- BIOSTEC 2022

- IMPROVE 2022
- AAMAS 2022
- Delta 2022
- IEA/AIE 2022

Changes in ACM Policy have had ramifications for the ACM SIGAI travel award scheme. In particular, it is no longer feasible for SIGs to make awards to individual students. Instead, awards must be made via sponsored and in-cooperation conferences. This made the current scheme, by which students apply directly to SIGAI for support, unworkable. We are working to revise the scheme to allow conferences to apply for travel award funds from the SIG which they will then administer themselves. Since one of the main goals of our travel award schemes was to promote diversity and inclusion in conferences, we will do our best to monitor the effect this has on the diversity of students receiving support via SIGAI funds.

Special Projects and Non-Conference Programs

Newsletter

There have been some recent transitions in the editorial team of AI Matters. We thank Iolanda Leite, who stepped down last year, and we are delighted that Dr. Ziyu Yao has joined as a new editor-in-chief. Dr. Yao is an Assistant Professor in the Computer Science department of George Mason University. Her expertise lies in AI and natural language processing. She will be collaborating with Dr. Anuj Karpatne in leading the AI Matters Newsletter editing. The new team has several initiatives and new columns in mind that will hopefully soon begin appearing in the newsletter on a regular basis!

Website and Social Media

We completed the transition of the SIGAI website to a more modern look and feel. As intended, the new website presents a more standardized and professional appearance and more clearly lay out ways for visitors to interact with SIGAI as well as improved accessibility.

The ACM SIGAI Twitter account has been taken over by a new co-information officer, Matt Luckcuck from the University of Darby, who has focused on trying to improve engagement with the account, and ensure that the Twitter account is a useful means of communication. Last year, the account was following 23 other accounts, and had 543 followers. Now, the account is following 548 other accounts, and has 833 followers. Over the past year, the accounts posts were viewed an average of 1828 times each. Our partnership with AI-Hub has been particularly important, so sharing their posts (such as their monthly round-up of AI posts) has been a particular focus. Broadening the reach of the account helps SIGAI to better communicate with our members and wider society about our work and the ongoing developments of AI in general.

Public Policy Activities

Larry Medsker continues to represent SIGAI as a member of the ACM US Technology Policy Committee (USTPC). A major project in 2022 was work with the ACM's Technology Policy Council on a series of short technical bulletins that "present scientifically-grounded perspectives on the impact of specific developments or applications of technology" to complement ACM's activities in the policy arena. Recent TechBriefs are available at <https://www.acm.org/public-policy/techbriefs>. Topics under consideration for future TechBriefs include election auditing, AI and trust, encryption security, media disinformation, content filtering, blockchain, digital accessibility, among others.

Job Fair

For the eighth year in a row (and second year in a fully virtual format), AAAI and ACM SIGAI jointly ran the popular AAAI/ACM SIGAI Job Fair. This year, 19 companies and universities participated in the job fair. We continued to maintain a dedicated domain for the fair <https://aaaijobfair.com/>, and we provided a link on that site for job-seekers to submit resumes or CVs, which were distributed to participating organizations.

The virtual job fair format continued to provide novel challenges. We worked closely with Virtual Chair to design a virtual venue

in which participants could interact with participating companies and universities through virtual booths. The virtual booths provided access to promotional materials (videos, text, and links to relevant resources) and were accessible throughout the conference. We also scheduled three two hour time slots, distributed over a 24 hour period to ensure that everyone throughout the world had a convenient time to attend, in which booths could be staffed to allow for in person interactions with representatives from potential employers. Due to the virtual format, it is difficult to estimate the makeup of job seekers who participated in the job fair, but the potential employers hailed from all over the world (e.g. China, Sweden, Japan, England, US).

We hope that all participants in this year's fair enjoyed the experience and were able to make meaningful connections. We would particularly like to thank AAAI and Virtual Chair—particularly Stephanie Le from AAAI and Eric Sodomka from Virtual Chair—for all of their help in organizing the job fair. If you have any comments or suggestions for future iterations of the job fair, please let us know!

AI-OR Workshop Series

SIGAI, joint with the CCC (Computing Community Consortium) and INFORMS, co-organized two visioning workshops at the intersection of Artificial Intelligence and Operations Research. The first workshop was in September 2021 and the second in April 2022. The official report on the first workshop, which was focused on agenda-setting and learning about points of connection between the AI and OR communities, can be found at <https://cra.org/ccc/wp-content/uploads/sites/2/2021/10/Filler-AIOR-document.pdf>. The second workshop focused on trustworthiness, including topics like fairness, explainability, causality, robustness, privacy, human alignment, and human-computer interaction.

Key Issues

A couple of the major issues facing us are connected. ACM is making a substantive change in the overhead rates we are charged as a SIG; most significantly, this gets passed on to members through increased conference regis-

tration rates. At the same time, we are unsure what exactly conferences, our major source of both community-building and (in direct and indirect ways) revenue, will look like going into the future, with uncertainties about the pandemic and climate change, as well as a desire to be more inclusive of the global south, lead to changes in the balance between in-person, virtual, and hybrid conferences (or new or different models of scholarly and scientific communication entirely). We are relatively well-positioned to deal with this in the immediate future thanks to the healthy membership numbers and financial reserves of SIGAI, but it will be important to be watchful and open to change in the coming years. Regardless, we look forward to helping guide the community into the future!

