



ACM SIGAI Activity Report

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

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

Rosemary Paradis (elected; [ACM SIGAI Secretary/Treasurer](#))

John Dickerson (appointed; [ACM SIGAI Labor Market Officer](#))

Yolanda Gil (appointed; [ACM SIGAI Past Chair](#))

Katherine Guo (appointed; [ACM SIGAI Membership and Outreach Officer](#))

Benjamin Kuipers (appointed; [ACM SIGAI Ethics Officer](#))

Hang Ma (appointed; [ACM SIGAI Information Officer](#))

Nicholas Mattei (appointed; [ACM SIGAI AI and Society Officer](#))

Amy McGovern (appointed; [ACM SIGAI Newsletter Editor-in-Chief](#))

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

Todd Neller (appointed; [ACM SIGAI Education Activities Officer](#))

Plamen Petrov (appointed; [ACM SIGAI Industry Liaison Officer](#))

Michael Rovatsos (appointed; [ACM SIGAI Conference Coordination Officer](#))

David G. Stork (appointed; [ACM SIGAI Award Officer](#))

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Abstract

We are happy to present the annual activity report of ACM SIGAI, covering the period from July 2017 to June 2018.

The scope of ACM SIGAI consists of the study of intelligence and its realization in computer systems (see also our website at sigai.acm.org). This includes areas such as

autonomous agents, cognitive modeling, computer vision, constraint programming, human language technologies, intelligent user interfaces, knowledge discovery, knowledge representation and reasoning, machine learning, planning and search, problem solving, and robotics.

Our members come from academia, industry, and government agencies worldwide. We are thrilled to be able to report that our membership numbers increased by about 10 percent over the past year!

The terms of three of our officers (one of the two education activities officers, one of the two newsletter co-editors in chief, and the information officer) came to an end. We thank them

for their valuable service and have now started to provide certificates of appreciation for outgoing officers. We appointed a new information officer and are currently looking for a new newsletter co-editor in chief and additional column editors. We also created and filled two new officer positions to be able to serve our members even better, namely an AI and society officer and a labor market officer.

Conferences

We helped to found the AAI/ACM AI, Ethics, and Society (AIES) conference, a high-profile, multi-disciplinary meeting that addresses the impact of AI on society (including aspects such as value alignment, data handling and bias, regulations, and workforce impact) in a scientific context. We have a 50 percent financial stake in AIES, which we expect to become the prime international conference in the field. The inaugural AIES, held on February 13, 2018 in New Orleans directly before the AAI conference, was a great success, attracting 162 submissions and selling out (see a recent summary in our newsletter AI Matters). The AI and society officer organized the AIES doctoral consortium, which received over 60 submissions but could only accept 20 students. AIES 2019 is now in the planning

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phase.

We sponsored the following conferences in addition to AIES 2018:

- The IEEE/WIC/ACM International Conference on Web Intelligence (WI 2017), Leipzig, Germany, August 23-26, 2017
- The 32nd International Conference on Automated Software Engineering, Urbana-Champaign, USA, October 30-November 3, 2017
- The 9th International Conference on Knowledge Capture (K-CAP 2017), Austin, TX, USA, December 4-6, 2017
- The CRA Summit on Technology and Jobs, Washington D.C., USA, December 12, 2017
- The 23rd International Conference on Intelligent User Interfaces (IUI 2018), Tokyo, Japan, March 7-11, 2018
- The 13th Annual ACM/IEEE International Conference on Human Robot Interaction (HRI 2018), Chicago, USA, March 5-8, 2018

We approved the following in-cooperation and sponsorship requests from events covering a wide thematic and geographical range across the international AI community:

- The 20th International Conference on Enterprise Information Systems (ICEIS 2018), Funchal, Portugal, March 21-24, 2018
- The 17th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2018), Stockholm, Sweden, July 10-15, 2018
- The 33rd IEEE/ACM International Conference on Automated Software Engineering (ASE 2018), Montpellier, France, September 3-7, 2018
- The 18th International Conference on Intelligent Virtual Agents (IVA 2018), Sydney, November 5-8, 2018
- The 2nd ACM Computer Science in Cars Symposium (CSCS 2018), Munich, Germany, September 13-14, 2018
- The 10th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management (IC3K 2018), Seville, Spain, September 18-20, 2018

- International Conference on the Foundations of Digital Games (FDG 2018), Malm, Sweden, August 7-10, 2018
- The 10th International Joint Conference on Computational Intelligence, Seville, Spain, September 18-20, 2018
- The 15th International Conference on Informatics in Control, Automation, and Robotics (ICINCO 2018), Porto, Portugal, July 29-31, 2018
- The First IEEE International Conference on Artificial Intelligence and Virtual Reality (IEEE-AIVR 2018), Taichung, Taiwan, December 10-12, 2018

ACM SIGAI membership benefits include reduced registration fees for many of the in-cooperation and sponsored conferences and access to many proceedings in the ACM Digital Library.

We also have an agreement with the Association for the Advancement of AI (AAAI) to jointly organize the annual joint job fair at the AAAI conference, where attendees can find out about job and internship opportunities from representatives from industry, universities, and other organizations. The job fair in 2018 was run by two of our officers and attracted over 30 organizations offering jobs and hundreds of job seekers (see the recent summary in AI Matters). Similarly, we have an agreement with AAAI to jointly sponsor the annual joint doctoral consortium at the AAAI conference, which provides an opportunity for Ph.D. students to discuss their research interests and career objectives with the other participants and a group of established AI researchers that act as their mentors.

Awards

We started a new award, the ACM SIGAI Industry Award for Excellence in AI, which will be given annually 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 award will be accompanied by a prize of US\$5,000 and be presented at

the International Joint Conference on AI (IJCAI), starting in 2019 - thanks to a collaboration with the IJCAI Board of Trustees.

The ACM SIGAI Autonomous Agents Research Award was presented at the International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2018 - thanks to a collaboration with the International Foundation for Autonomous Agents and Multiagent Systems (IFAAMAS) - to Craig Boutilier, Principal Research Scientist at Google, for his seminal contributions to research on decision-making under uncertainty, game theory, and computational social choice.

Member Support

We support our members in different ways. For example, we nominate them for awards or support their nominations. We also nominate publications of recent, significant, and exciting AI research results that are of general interest to the computer science research community to the Research Highlights track of the Communications of the ACM (CACM) to make important AI research results visible to many computer scientists. We concentrate our financial support on our student members and provided funding to conferences so that they can award scholarships to their student attendees. We also supported the review process for the applications of students to attend the Heidelberg laureate forum to meet the recipients of the most prestigious awards in mathematics and computer science, including the ACM A.M. Turing Award and the ACM Prize in Computing.

To understand the interests of our members better, we conducted a membership survey and learned, among other things, that the majority of our members have been SIGAI members for two or more years. They are interested in AI resources (such as digital content access and webinars) as well as networking, and consider it important that we cover (among other things) hot AI topics, AI ethics, and AI applications with an industry focus. We also reached out to other groups to learn about their outreach activities, including to regional groups (such as the Northeast Ohio ACM chapter) and larger ACM Special Interest Groups (such as SIGCHI).

Member Communication

We communicate with our members via email announcements, the SIGAI newsletter AI Matters, the AI Matters blog, and webinars.

AI Matters

We continued to expand the scope of our newsletter AI Matters this year, introduced the EasyChair system for the submission of manuscripts and added additional column editors to the editorial team. We publish four issues of AI Matters per year that are openly available on the ACM SIGAI website at sigai.acm.org/aimatters/ and feature articles of general interest to our members. Recurring columns have included:

- AI Interviews (with interesting people from academia, industry, and government),
- AI Amusements (including AI humor, puzzles, and games),
- AI Education (led by the education activities officer),
- AI Policy Issues (led by the public policy officer),
- AI Buzzwords (which explains new AI concepts or terms),
- AI Events (which includes conference announcements and reports, led by the conference coordination officer),
- AI Dissertation Abstracts and
- News from AI Groups and Organizations.

The Symposium on Educational Advances in AI (EAAI) will feature an undergraduate research track for the Birds of a Feather faculty-mentored undergraduate research challenge based on one of the AI Education columns. AI Matters also published the 8 winning entries from the ACM SIGAI Student Essay Contest on the Responsible Use of AI Technologies. One of these essays had more than 2,000 accesses (including accesses to the pdf file of the complete issue that contained the article).

AI Matters Blog

The AI Matters Blog is openly available on the ACM SIGAI website at sigai.acm.org/aimatters/blog/ and serves as a forum for important announcements and news. For example, we post new

information every two weeks in the blog to survey and report on current AI policy issues and raise awareness about the activities of other organizations that share interests with ACM SIGAI. We are also open to posts by regional groups and have invited the Northeast Ohio ACM chapter to contribute.

Webinars

We extended our webinars on AI topics as part of our commitment to lifelong learning. In particular, we offered monthly webinars from November 2017 to June 2018 that focused on the application of AI technology to real-world problems and were presented by speakers typically involved with both academic research and industrial implementations:

- November 10, 2017
Dan Moldovan
Founder of Lymba Corporation, Professor in the Computer Science Department at the University of Texas at Dallas and Co-Director of its Human Language Technology Research Institute
Topic: “On the Evolution of NLP, QA, and IE, and Current Research and Commercial Trends”
- December 15, 2017
Peter Elkin
Professor and Chair of the University at Buffalo Department of Biomedical Informatics
Topic: “HTP-NLP: A New NLP System for High Throughput Phenotyping”
- January 12, 2018
Lionel Jouffe
Co-founder and CEO of France-based Bayesia S.A.S.
Topic: “Data Mining, Knowledge Modeling, and Causal Analysis with Bayesian Networks”
- February 23, 2018
Kristian Hammond
Professor of Computer Science at Northwestern University and co-founder of Narrative Science
Topic: “Communicating with the New Machine: Human Insight at Machine Scale”
- March 15, 2018
Tomek Strzalkowski
Director of the Institute for Informatics, Logistics, and Security Studies and Professor at

SUNY Albany

Topic: “Advances in Socio-Behavioral Computing”

- May 7, 2018
Jussi Karlgren
KTH Royal Institute of Technology and Helsinki University and founding partner of Gavagi, a text analysis company
Topic: “Explicitly Encoded High-Dimensional Semantic Spaces”
- June 4, 2018
Maja Matarić
Professor and Chan Soon-Shiong Chair in the Computer Science Department, Neuroscience Program, and the Department of Pediatrics at the University of Southern California
Topic: “Socially Assistive Robotics”

The webinars were streamed live but can still be watched on demand at learning.acm.org/webinar/. They turned out to be very popular, typically reaching a thousand or more viewers.

Public Policy and AI Ethics

Within ACM, we work with the ACM US Public Policy Council (USACM) through the membership of our public policy officer in USACM and the participation of our members in US public policy issues related to computing and information technology. For example, our public policy officer works with the USACM leadership and the Electronic Privacy Information Center to petition the Office of Science and Technology Policy of the White House to construct and publicize a formal process by which the public might have input into the work of the recently-named Select Committee on Artificial Intelligence. He also studies how organizations collect and analyze data and whether these practices are consistent with recommendations by the USACM working groups on algorithmic accountability, transparency, and bias. Finally, he works on recommendations for possible changes to the ACM policy regarding data privacy of ACM SIGAI and ACM members who use EasyChair to submit articles for publication, including to AI Matters.

Outside of ACM, we helped to found the AAI/ACM AI, Ethics, and Society (AIES) conference (as detailed above). We also partici-

pate in the executive committee of the IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems to ensure that every technologist is educated, trained, and empowered to prioritize ethical considerations in the design and development of autonomous and intelligent systems.

Planning for the Future

In our last progress report, we promised to increase our understanding of our current membership. To further this objective, we performed a membership survey this year. We promised to intensify our activities to reach industry professionals. To further this objective, we substantially extended our webinars that focus on the application of AI technology to real-world problems and started the ACM SIGAI Industry Award for Excellence in AI. We promised to reach out to more AI groups worldwide that could benefit from ACM support, such as providing financial support, making the proceedings widely accessible in the ACM Digital Library, and providing speakers via the ACM Distinguished Speakers program. To further this objective, our membership officer contacted a number of such groups. We promised to expand the number of co-sponsored and in-cooperation conferences and to continue our efforts to further the discussion on the responsible use of AI technologies. To further these objectives, we helped to found the AAI/ACM AI, Ethics, and Society conference. In the next year, we intend to continue the reorganization of AI Matters to be able to provide more content while spreading the production effort among more editors. We also intend to intensify our activities to support students and regional chapters and become even more international in our news coverage. Furthermore, the election of the next SIGAI leadership team is coming up and we are looking for strong candidates who are interested in shaping the future of ACM SIGAI!