AI Matters

## Annotated Table of Contents

**Welcome to AI Matters 7(1)**
Iolanda Leite, co-editor & Anuj Karpatne, co-editor

Full article: http://doi.acm.org/10.1145/3465074.3465075

*Welcome and summary*

**Events**
Dilini Samarasinghe

Full article: http://doi.acm.org/10.1145/3465074.3465076

*Upcoming SIGAI events*

**Conference Reports**
Louise A. Dennis

Full article: http://doi.acm.org/10.1145/3465074.3465077

*Conference Reports*

**Unplugged Assignments for K-12 AI Education**
Duri Long, Jonathan Moon & Brian Magerko

Full article: http://doi.acm.org/10.1145/3465074.3465078

*AI Education Matters*

**AI Policy Matters**
Larry Medsker

Full article: http://doi.acm.org/10.1145/3465074.3465079

*AI Policy Matters*

**Applied AI Matters**
**AI4Code: Applying Artificial Intelligence to Source Code**
Kartik Talamadupula

Full article: http://doi.acm.org/10.1145/3465074.3465080

*Applied AI Matters*

**Learning to See the Physical World**
Jiajun Wu

Full article: http://doi.acm.org/10.1145/3465074.3465081

*Learning to See the Physical World*

**Novel Practices and Highlights from the Fourth Workshop on Mechanism Design for Social Good**
Francisco J. Marmolejo Cossio & Faidra Monachou

Full article: http://doi.acm.org/10.1145/3465074.3465082

*Mechanism Design for Social Good*

**Decoding AI – Summary of an ACM SIGAI Sponsored Event**
Vandana Srivastava

Full article: http://doi.acm.org/10.1145/3465074.3465083

*Decoding AI*


## Links

SIGAI website: http://sigai.acm.org/
Newsletter: http://sigai.acm.org/aimatters/
Blog: http://sigai.acm.org/ai-matters/
Twitter: http://twitter.com/acm_sigai/
Edition DOI: 10.1145/3465074

## Join SIGAI

Students $11, others $25

For details, see http://sigai.acm.org/
Benefits: regular, student

Also consider joining ACM.

Our mailing list is open to all.

## Notice to Contributing Authors to SIG Newsletters

By submitting your article for distribution in this Special Interest Group publication, you hereby grant to ACM the following non-exclusive, perpetual, worldwide rights:

- to publish in print on condition of acceptance by the editor
- to digitize and post your article in the electronic version of this publication
- to include the article in the ACM Digital Library and in any Digital Library related services
- to allow users to make a personal copy of the article for noncommercial, educational or research purposes

However, as a contributing author, you retain copyright to your article and ACM will refer requests for republication directly to you.

## Submit to AI Matters!

We're accepting articles and announcements now for the next issue. Details on the submission process are available at http://sigai.acm.org/aimatters.

## AI Matters Editorial Board

Iolanda Leite, Co-Editor, *KTH*
Anuj Karpatne, Co-Editor, *Virginia Tech*
Sanmay Das, *George Mason University*
Nicholas Mattei, *Tulane University*
Alexei Efros, *Univ. of CA Berkeley*
Susan L. Epstein, *The City Univ. of NY*
Yolanda Gil, *ISI/Univ. of Southern California*
Doug Lange, *U.S. Navy*
Kiri Wagstaff, *JPL/Caltech*
Xiaojin (Jerry) Zhu, *Univ. of WI Madison*

Contact us: aimatters@sigai.acm.org

## Contents Legend

Book Announcement

Ph.D. Dissertation Briefing

AI Education

Event Report

Hot Topics

Humor

AI Impact

AI News

Opinion

Paper Précis

Spotlight

Video or Image

Details at http://sigai.acm.org/aimatters

# Welcome to AI Matters 7(1)

**Iolanda Leite, co-editor** (Royal Institute of Technology (KTH); aimatters@sigai.acm.org)
**Anuj Karpatne, co-editor** (Virginia Tech; aimatters@sigai.acm.org)
DOI: 10.1145/3465074.3465075

## Issue overview

Welcome to the first issue of this year's AI Matters Newsletter!

We start with a report on upcoming SIGAI Events by Dilini Samarasinghe and Conference reports by Louise Dennis, our conference coordination officers. In our regular Education column, Duri Long, Jonathan Moon, and Brian Magerko introduce two "unplugged" activities (i.e., no technology needed) to learn about AI focussed on K-12 AI Education. We then bring you our regular Policy column, where Larry Medsker covers several topics on AI policy, including the role of Big Tech on AI Ethics and an interview with Dr. Eric Daimler who is the CEO of the MIT-spinout Conexus.com.

Finally, we close with four article contributions. The first article discusses emerging applications of AI in analyzing source code and its implications to several industries. The second article discusses topics in the area of physical scene understanding that are necessary for machines to perceive, interact, and reason about the physical world. The third article presents novel practices and highlights from the Fourth Workshop on Mechanism Design for Social Good. The fourth article provides a report on the "Decoding AI" event that was conducted online by ViSER for high school students and adults sponsored by ACM SIGAI.

### 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 http://sigai.acm.org/aimatters.

**Iolanda Leite** is co-editor of AI Matters. She is an Associate Professor at the School of Electrical Engineering and Computer Science at the KTH Royal Institute of Technology in Sweden. Her research interests are in the areas of Human-Robot Interaction and Artificial Intelligence. She aims to develop autonomous socially intelligent robots that can assist people over long periods of time.

**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.

Copyright © 2021 by the author(s).

# Events

**Dilini Samarasinghe** (University of New South Wales; d.samarasinghe@adfa.edu.au)
DOI: 10.1145/3465074.3465076

This section features information about upcoming events relevant to the readers of AI Matters, including those supported by SIGAI. We would love to hear from you if you are are organizing an event and would be interested in cooperating with SIGAI.For more information about conference support visit sigai.acm.org/activities/requesting_sponsorship.html.

## 21st ACM International Conference on Intelligent Virtual Agents (IVA 2021)

*Kyoto, Japan, 14-17 September, 2021*
http://www.iva2021.org/
ACM IVA is an annual interdisciplinary conference and the main leading scientific forum for presenting research on modeling, developing and evaluating intelligent virtual agents (IVAs) with a focus on communicative abilities and social behavior. IVAs are recognised as interactive digital characters that exhibit human-like qualities and can communicate with humans and each other using natural human modalities like facial expressions, speech and gesture.

The conference seeks to publish cutting-edge research on the design, application, and evaluation of IVAs, as well as basic research on social perception, dialog modeling, and social behavior planning. Further, submissions on central theoretical issues, uses of virtual agents in psychological research and showcases of working applications are also encouraged. Special theme topics include but are not limited to: experiments and methodological issues with Socially Interactive Agents (SIA) and HRI research when interaction is restricted (such as during Covid-19); IVAs for behavior change; IVAs for social inclusion/feelings of loneliness, mental helper IVAs; IVA's for deliberation and information understanding; cognitive aid IVA's; and IVA aided education (remote) education.
**Submission deadline:** May 1, 2021

Copyright © 2021 by the author(s).

## 18th International Conference on Informatics in Control, Automation and Robotics (ICINCO 2021)

*Virtual online event, July 6-8, 2021*
http://www.icinco.org/
ICINCO 2021 is targeted at emphasizing the connection between informatics applications pervasive in the areas of Control, Automation and Robotics. It expects to bring together researchers, engineers and practitioners interested in the application of informatics to these areas. The conference facilitates four simultaneous tracks: intelligent control systems and optimization; robotics and automation; signal processing, sensors, systems modeling and control; and industrial informatics.

Companies interested in presenting their products/methodologies or researchers interested in holding a tutorial, workshop or special session can find further information on the conference website. Due to the ongoing COVID-19 pandemic, the conference will be streamed online this year.
**Submission deadlines:** Doctoral Consortium: May 12, 2021; Special Sessions: May 6, 2021; Abstraction Track: May 12, 2021

## 36th IEEE/ACM International Conference on Automated Software Engineering (ASE 2021)

*Melbourne, Australia, November 15-19, 2021*
https://conf.researchr.org/home/ase-2021
ASE 2021 is the premier research forum for Automated Software Engineering. Each year, it brings together researchers and practitioners from academia and industry to discuss foundations, techniques, and tools for automating the analysis, design, implementation, testing, and maintenance of large software systems. In addition to the regular conference tracks (research track, doctoral symposium, journal-first papers, tutorials, workshops), the conference is also encouraging submissions to several other tracks including: artifact evaluation, industry showcase, new ideas and emerging results, tool demonstra-

tions and late breaking news.
**Submission deadlines:** Research Papers: April 23, 2021; Late Breaking News: May 28, 2021; Tool Demonstrations: June 11, 2021; Doctoral Symposium: July 13, 2021; Artifact Evaluation: July 14, 2021

### 1st ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO'21)

*Virtual online event, October 5-8, 2021*
http://www.eaamo.org
The inaugural ACM conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO'21) aims to highlight work where techniques from algorithms, optimization, and mechanism design, along with insights from other disciplines, can help improve equity and access to opportunity for historically disadvantaged and underserved communities. The conference is organized by the Mechanism Design for Social Good (MD4SG) initiative, and builds on the MD4SG workshop series and tutorials at conferences including ACM EC, ACM COMPASS, and WINE. EAAMO'21 will feature keynote presentations and panels and contributed presentations on research papers, surveys, problem pitches, datasets, and software demonstrations. In line with the MD4SG core values of bridging research and practice, the conference aims to provide an international forum for researchers as well as policy-makers and practitioners in various government and non-government organizations, community organizations, and industry to build interdisciplinary, multi-stakeholder research pipelines.
**Submission deadline: June 3, 2021**

### 23rd International Conference on Enterprise Information Systems (ICEIS 2021)

*Virtual online event, April 26-28, 2021*
http://www.iceis.org
ICEIS aims to bring together researchers, engineers and practitioners interested in the advances and business applications of information systems. Six simultaneous tracks will be held, covering different aspects of enterprise information systems applications, including enterprise database technology, systems integration, artificial intelligence, decision support systems, information systems analysis and specification, internet computing, electronic commerce, human factors and enterprise architecture. A special session on soft computing for smart cities services is also planned to be held at the conference as a set of oral and poster presentations with the intention of providing a focused discussion on the specialized theme.
**Submission deadlines:** Doctoral Consortium: March 2, 2021; Abstracts Track: March 2, 2021; Special Session: March 2, 2021

### 34th International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems (IEA/AIE 2021)

*Kuala Lumpur, Malaysia, July 26-29, 2021*
https://ieeecomputer.my/ieaaie2021
IEA/AIE 2021 is the 34th event continuing the tradition of emphasizing on applications of applied intelligent systems to solve real-life problems in all areas including engineering, science, industry, automation & robotics, business & finance, medicine and biomedicine, bioinformatics, cyberspace, and human-machine interactions. The topics considered for publication include but are not limited to: adaptive control, autonomous agents, computer vision, data mining, evolutionary computation, games, information retrieval, machine learning and robotics with eight special sessions that run in parallel with the main conference.

Due to the ongoing Covid-19 pandemic both physical and virtual presentations are facilitated at the conference. Please refer to the conference website for information on registration and the program.

### 16th International Conference on Foundations of Digital Games (FDG 2021)

*Virtual online event, August 3-6, 2021*
http://fdg2021.org/
FDG 2021 is focused on presenting contributions from within and across disciplines committed to advancing knowledge on the foundations of games: computer science and engineering, humanities and social sciences,