



AI Policy Matters

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Abstract

AI Policy is a regular column in AI Matters featuring summaries and commentary based on postings that appear twice a month in the AI Matters blog (<https://sigai.acm.org/aimatters/blog/>). Selected posts are summarized in issues of *AI Matters*.

Introduction

The SIGAI Public Policy goals are to

- promote discussion of policies related to AI through posts in the AI Matters blog on the 1st and 15th of each month,
- help identify external groups with common interests in AI Public Policy,
- encourage SIGAI members to partner in policy initiatives with these organizations, and
- disseminate public policy ideas to the SIGAI membership through articles in the newsletter.

I welcome everyone to make blog comments so we can develop a rich knowledge base of information and ideas representing the SIGAI members.

EasyChair Data Privacy Issues

An emerging issue involves the data privacy of SIGAI and ACM members using EasyChair to submit articles for publication, including the AI Matters Newsletter. When trying to enter a new submission through EasyChair, the following message appears: AI Matters, 2014-present, is an ACM conference. The age and gender fields are added by ACM. By providing the information requested, you will help ACM to better understand where it stands in terms of diversity to be able to focus on areas of improvement. It is mandatory for the submitting author (but you can select “prefer not to submit”) and it is desirable that you fill it out for all

authors. This information will be deleted from EasyChair after the conference.

To evaluate the likelihood of privacy protection, one should pay attention to the EasyChair Terms of Service ¹, particularly Section 6 Use of Personal Information. More investigation may allow us to decide the level of risk if our members choose to enter personal information.

Your Public Policy Officer is working with the other SIGAI officers to clarify the issues and make recommendations for possible changes in ACM policy. Please send your views on this issue to SIGAI and contribute comments to the SIGAI Blog.

AI Terminology Matters

In the daily news and social media, AI terminology is a part of the popular lexicon for better or for worse. AI technology is both praised and feared in different corners of the society. Big data practitioners and even educators add to the confusion by misusing AI terms and concepts.

“Algorithm” and “machine learning” may be the most prevalent terms that are picked up in popular dialogue, including in the important fields of ethics and policy. The ACM and SIGAI could have a critical educational role in the public sphere. In the area of policy, the correct use of AI terms and concepts is important for establishing credibility with the scientific community and for creating policies that address the real problems.

In recent weeks, interesting articles have appeared, authored by writers of diverse degrees of scientific expertise. A June issue of *The Atlantic* has an article ² by Henry Kissinger entitled “How the Enlightenment

¹<https://easychair.org/terms.cgi>

²<https://www.theatlantic.com/magazine/archive/2018/06/henry-kissinger-ai-could-mean-the-end-of-human-history/559124/>

Ends” with the thesis that society is not prepared for AI. While some of the understanding of AI concepts can be questioned, the conclusion is reasonable: “AI developers, as inexperienced in politics and philosophy as I am in technology, should ask themselves some of the questions I have raised here in order to build answers into their engineering efforts. The U.S. government should consider a presidential commission of eminent thinkers to help develop a national vision. This much is certain: If we do not start this effort soon, before long we shall discover that we started too late.”

In May, The Atlantic had an article about the other extreme of scientific knowledge by Kevin Hartnett entitled “How a Pioneer of Machine Learning Became One of Its Sharpest Critics”³. He writes about an interview with Judea Pearl about his current thinking, with Dana Mackenzie, in *The Book of Why: The New Science of Cause and Effect*⁴. The interview includes a criticism of deep learning research and the need for a more fundamental approach.

Focusing back on policy, I recently attended a DC event of the Center for Data Innovation (<https://www.datainnovation.org/>) on a proposed policy framework to create accountability in the use of algorithms. They have a report⁵ on the same topic. The event was another reminder of the diverse groups in dialogue, in the public sphere, on critical issues in AI and the need to bring together the policymakers and the scientific community. SIGAI can have a big role to play.

Potential Revival of the OTA

As a small agency within the Legislative Branch, the Office of Technology Assessment (OTA) originally provided the United States Congress with expert analyses of new technologies related to public policy. But OTA was defunded and thereby ceased operations in 1995. A non-binding Resolution was introduced in the House of Representatives last

³<https://www.theatlantic.com/technology/archive/2018/05/machine-learning-is-stuck-on-asking-why/560675/>

⁴<https://www.basicbooks.com/titles/judea-pearl/the-book-of-why/9780465097609/>

⁵<https://www.datainnovation.org/category/publications/reports/>

week by Reps. Bill Foster (D-IL) and Bob Takano (D-CA) (press release), and Sen. Ron Wyden (D-OR). It is expected to introduce a parallel bill in the Senate, expressing the non-binding “sense of Congress” that the agency and its funding should be revived. New coordinated efforts are now underway as well, among many groups, to urge Congress to do exactly that.

Our colleagues at USACM have delivered letters of support for an inquiry into whether restoring OTA or its functions to the Legislative Branch would be advisable to the leaders of the House and Senate Appropriations Committees. The House Subcommittee met recently and voted to advance legislation to fund the Legislative Branch for FY 2019 to the full House Appropriations Committee but without addressing this issue. The full Committee’s meeting, at which an amendment to provide pilot funding for an inquiry into OTA-like services, is expected later in May. The Senate’s parallel Subcommittee and full Appropriations Committee is expected to act later this spring or early summer on the Legislative Branch’s FY19 funding bill. OTA-related amendments could be offered at either of their related business meetings. See the letter⁶ from USACM to leaders in the House and Senate Appropriations Committees

White House AI Summit on AI for American Industry

From the report⁷:

On May 10, 2018, the White House hosted the Artificial Intelligence for American Industry summit, to discuss the promise of AI and the policies we will need to realize that promise for the American people and maintain U.S. leadership in the age of artificial intelligence. “Artificial intelligence holds tremendous potential as a tool to empower the American worker, drive growth in American industry, and improve the lives of the American people. Our free market approach to scientific discovery

⁶<https://www.acm.org/binaries/content/assets/public-policy/usacm/2018-usacm-letter-ota-funding.pdf>

⁷<https://www.whitehouse.gov/wp-content/uploads/2018/05/Summary-Report-of-White-House-AI-Summit.pdf>

harnesses the combined strengths of government, industry, and academia, and uniquely positions us to leverage this technology for the betterment of our great nation.” - Michael Kratsios, Deputy Assistant to the President for Technology Policy

The summit brought together over 100 senior government officials, technical experts from top academic institutions, heads of industrial research labs, and American business leaders who are adopting AI technologies to benefit their customers, workers, and shareholders.

Issues addressed at the 2018 summit are as follows:

- Support for the national AI R&D ecosystem “free market approach to scientific discovery that harnesses the combined strengths of government, industry, and academia.”
- American workforce that can take full advantage of the benefits of AI “new types of jobs and demand for new technical skills across industries . . . efforts to prepare America for the jobs of the future, from a renewed focus on STEM education throughout childhood and beyond, to technical apprenticeships, re-skilling, and lifelong learning programs to better match America’s skills with the needs of industry.”
- Barriers to AI innovation in the United States included – “need to promote awareness of AI so that the public can better understand how these technologies work and how they can benefit our daily lives.”
- High-impact, sector-specific applications of AI - “novel ways industry leaders are using AI technologies to empower the American workforce, grow their businesses, and better serve their customers.”

Bias, Facebook, and Google

Current events involving FaceBook and the use of data they collect and analyze relate to issues addressed by SIGAI and USACM working groups on algorithmic accountability, transparency, and bias. The players in this area of ethics and policy include those who are unaware of the issues and ones who intentionally use methods and systems with bias to achieve organizational goals. The issues around use of customer data in ways that are not transparent, or are difficult to discover, not only have a

negative impact on individuals and society, but are also difficult to address because they are integral to the business models upon which such companies are based.

A recent Forbes article⁸ “Google’s DeepMind Has An Idea For Stopping Biased AI” discusses research that addresses AI systems that spread prejudices that humans have about race and gender – the issue that biased decisions may be made by artificial intelligence systems when trained on biased data. An example cited in the article include facial recognition systems that have been shown to have difficulty in properly recognizing black women.

Machine-learning software is rapidly becoming widely accessible to developers across the world, many of whom are not aware of the dangers of using data containing biases. The Forbes piece discusses an article “Path-Specific Counterfactual Fairness,”⁹ by DeepMind researchers Silvia Chiappa and Thomas Gillam. Counter-factual fairness refers to methods of decision-making for machines and ways that fairness might automatically be determined. DeepMind has a new division, DeepMind Ethics & Society, that addresses this and other issues on the ethical and social impacts of AI technology.

The Forbes article quotes Kriti Sharma, a consultant in artificial intelligence with Sage, the British enterprise software company, as follows: “Understanding the risk of bias in AI is not a problem that technologists can solve in a vacuum. We need collaboration between experts in anthropology, law, policy makers, business leaders to address the questions emerging technology will continue to ask of us. It is exciting to see increased academic research activity in AI fairness and accountability over the last 18 months, but in truth we aren’t seeing enough business leaders, companies applying AI, those who will eventually make AI mainstream in every aspect of our lives, take the same level of responsibility to create unbiased AI.”

⁸<https://www.forbes.com/sites/parmyolson/2018/03/13/google-deepmind-ai-machine-learning-bias/#43851fb26829>

⁹<https://deepmind.com/applied/deepmind-ethics-society/>

News Matters

- The statement of the European Group on Ethics in Science and New Technologies on “Artificial Intelligence, Robotics and ‘Autonomous’ Systems,” was published March 9: http://ec.europa.eu/research/ege/pdf/ege_ai_statement_2018.pdf. The statement calls for the EC to “launch a process that paves the way towards a common, internationally recognized ethical and legal framework for the design, production, use and governance of artificial intelligence, robotics, and ‘autonomous’ systems.”
- President Donald Trump recently tapped Obama-era deputy U.S. CTO Ed Felten to serve on the Privacy and Civil Liberties Oversight Board <https://www.pclob.gov/>
- AAAS Forum on Science & Technology Policy, Washington, D.C., June 21-22, 2018. https://www.aaas.org/page/forum-science-technology-policy?et_rid=35075781&et_cid=1876236.



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in Computer Science and in Physics, where he was a co-founder of the Siena Institute for Artificial Intelligence. His research and teaching continues at GW on the nature of humans and machines and the impacts of AI on society and policy^a. Professor Medsker's research in AI includes work on artificial neural networks and hybrid intelligent systems. He is the Public Policy Officer for the ACM SIGAI.

^a<http://humac-web.org/>
