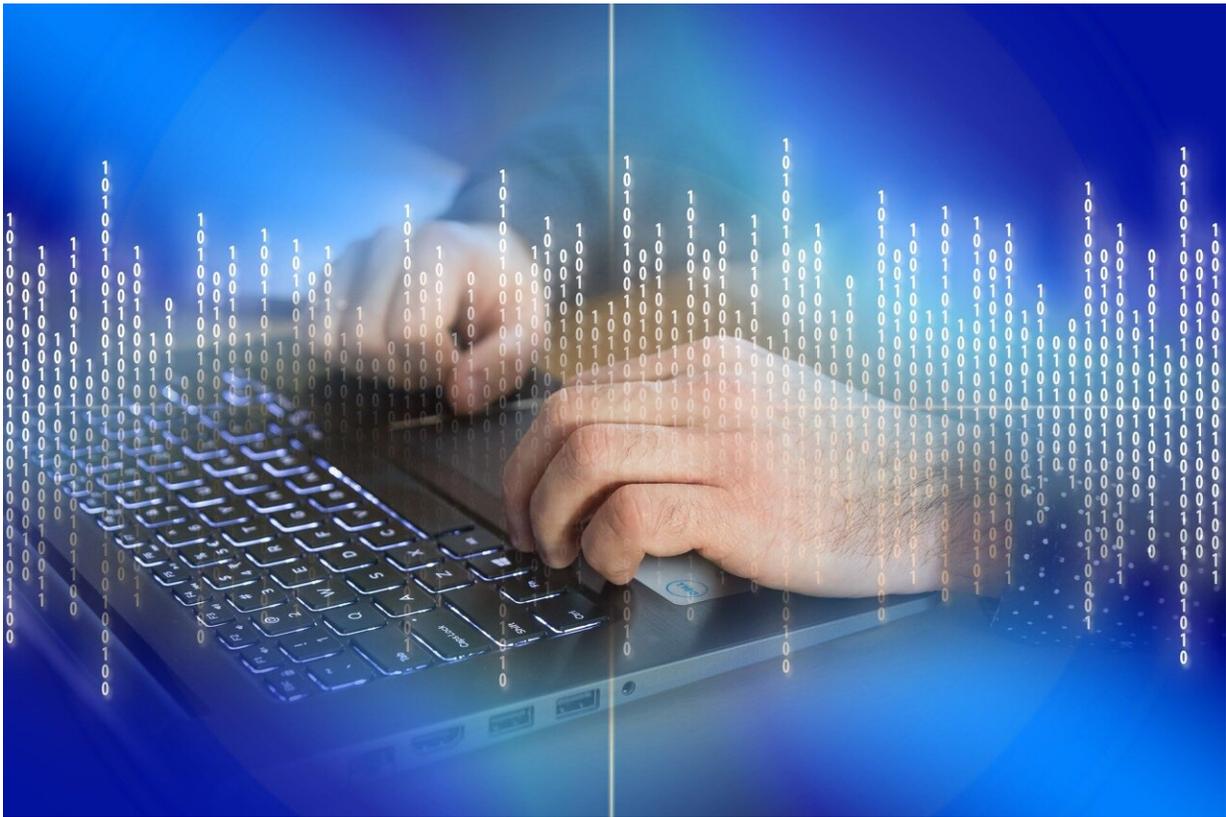


New joint statement on principles for responsible algorithmic systems

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The Association for Computing Machinery's global Technology Policy Council (TPC) has released a new Statement on Principles for Responsible Algorithmic Systems authored jointly by its US (USTPC)

and Europe Technology Policy Committees (Europe TPC). Recognizing that algorithmic systems are increasingly used by governments and companies to make or recommend decisions that have far-reaching effects on individuals, organizations and society, the ACM Statement lays out nine instrumental principles intended to foster fair, accurate, and beneficial algorithmic decision-making.

The statement includes a definition for each principle as well as a brief explanation of how the principle contributes to the larger goal of building responsible algorithmic systems. The nine instrumental principles include: Legitimacy and Competency; Minimizing Harm; Security and Privacy; Transparency; Interpretability and Explainability; Maintainability; Contestability and Auditability; Accountability and Responsibility; and Limiting Environmental Impacts. The new statement complements the [ACM Code of Ethics](#) and is intended as a guide for algorithm developers and designers to remain vigilant concerning the potential for bias and unfairness at each stage of the software development process.

"We are building on our 2017 [Statement on Algorithmic Transparency and Accountability](#) with principles that urge designers and developers to produce sufficient evidence of the legitimacy and reliability of automated systems, so that users do not need to place blind trust in them," explained Jeanna Matthews, a Professor at Clarkson University and Co-Lead author of the new Statement. "Processes to collect and share this critical information transparently throughout a system's lifecycle is key to responsible deployment of algorithmic systems in collaboration with all the stakeholders impacted by a system."

"This statement improves upon the first one in several aspects," added Ricardo Baeza-Yates, Professor, Universitat Pompeu Fabra, and Co-Lead author of the new Statement. "We include two new key instrumental principles: legitimacy and competence. These define the

validity of an algorithmic system as well as sustainability that worries about our future on Earth. We also discuss governance aspects, including how to put these principles into practice by giving a number of examples of trade-offs to consider."

In addition to the nine instrumental principles, the ACM Technology Policy Council recognizes that, despite putting in place a framework to discourage bias in algorithms, several factors could produce unfair systems. For these reasons, the Statement on Principles for Responsible Algorithmic Systems includes four recommendations which take into account the way data is processed and how a system is deployed.

- System builders and operators should adhere to the same standards in selecting inputs or architecting systems to which humans are held when making equivalent decisions
- AI system developers should undertake extensive impact assessments prior to the deployment of AI systems
- Policy makers should mandate that audit trails be used to achieve higher standards of accuracy, transparency, and fairness
- Operators of AI systems should be held responsible for their decisions regardless of whether algorithmic tools are used.

Members of the ACM Technology Policy Council also recognize that a "one size fits all" approach to achieving responsible algorithmic systems would be ineffective and that context plays an important role in each developer's decisions. ACM TPC members hope that the Statement on Principles for Responsible Algorithmic Systems will prompt discussions among all stakeholders, initiate more research, and help leaders develop governance methods to bring benefits to a wide range of users while promoting the reliability, safety, and responsibility of [algorithmic](#) systems.

More information: [Statement on Principles for Responsible](#)

[Algorithmic Systems](#)

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