

# DIGITAL DECISIONS:

## Building Trust in Algorithms

The Center for Democracy & Technology is convening industry representatives, researchers, government officials, and civil rights advocates to develop principles to guide fair and responsible use of machine learning and algorithmic decision-making.

Sophisticated statistical analysis is a pillar of decision making in the 21st Century, including employment, lending, and policing. Automated systems also mediate our access to information and community through search results and social media. These technologies are pivotal to day-to-day life, but the processes that govern them are not transparent. Civil rights and privacy advocates have expressed concern that this erodes accountability and fairness. CDT is working with stakeholders to develop guidance that ensures the rights of individuals, encourages innovation and design incentives that promote responsible use.

The question of how to ensure fairness in automated systems is complicated and will require thoughtful and candid debate. CDT is providing a trusted space for individuals to share information and develop ideas within our Internet Privacy Working Group. CDT's goal is to bring representatives from the technology industry and advocacy community together to develop and codify realistic and forward-thinking protections that advance civil rights.

### + Civil Rights

Computer scientists have argued that relying on algorithms does not assure unbiased decisions, despite the perception that mathematical systems may be inherently fair. Big data analysis may never be as accurate for minority populations where less information is available as it is for majority populations. When this technology is applied in a various contexts, such as workplace or healthcare data, some groups may be disproportionately over or under represented. Additionally, the lack of transparency makes it harder for individuals to understand what characteristics about them were relevant to the decision. Without this information, individuals (as well as advocates and regulators) cannot be sure if they were evaluated fairly.

### + Vision for the Future

Guidance for ethical use of automated decision-making technology could help address deep-seated cultural bias that has yet to be rooted out by civil rights laws. This is an opportunity to demystify digital decision-making to create principles for advocates and dynamic and responsive criteria that can be implemented by industry. By looking at positive examples of using big data as well as pitfalls, we can analyze the incentive structure that achieves the best results.

### + Technology

Algorithms can take input data and categorize it according to a setscheme to produce a prediction, a characterization, or an inferred attribute. More sophisticated algorithms can determine what is significant from historic data. This process is called “machine learning,” which “automates the process of discovering useful patterns, revealing regularities upon which subsequent decision-making can rely.” Because of the power and relative cost-effectiveness of this technique, companies are collecting and buying large databases to feed into automated decision-making systems.

### + What's at Stake?

Automated decision-making plays a fundamental role in society from allocating where police patrol to determining what financial instruments and jobs are available to individuals. Because of this, the question of how to regulate algorithmic decision-making has implications for individuals' economic stability, individual well-being, and future success. At the same time, automated processes are crucial and invaluable parts of our digital ecosystem, like credit card fraud detection and search engines. Principled automated decision-making will encourage innovation that maintains a positive social impact.

## CONTACT

For more information from CDT on this topic, contact Ali Lange  
at (202) 407-8838 or [alange@cdt.org](mailto:alange@cdt.org)