Algorithmic Bias Safeguards for Workforce

Overview
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These Algorithmic Bias Safeguards for Workforce ("Safeguards") are made available to you solely for informational purposes. The Safeguards, which include the "Evaluation" “Education and Assessment,” “Scorecard,” and “Implementation Guidance” documents and materials, and all associated documents and materials made available to you in connection therewith, were created by the Data & Trust Alliance to facilitate the collection of information from potential vendors regarding their potential to introduce unfair bias into workforce processes. The Safeguards are intended solely for consideration as a supplement to your existing vendor selection procedures. You remain free not to use the Safeguards or to use only part of the Safeguards. Any conclusion or action taken by you in connection with your use of the Safeguards shall be and is made or taken in your sole discretion. In no event shall any such conclusion or action be construed as reflecting the opinion, endorsement or direction of the Data & Trust Alliance. By using the Safeguards, you hereby agree not to make any statement, directly or indirectly, contrary to the foregoing.

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Thank you for your interest in the Data & Trust Alliance and the Algorithmic Bias Safeguards for Workforce.

The Data & Trust Alliance brings together leading businesses and institutions across multiple industries to learn, develop, and adopt responsible data and AI practices.

As part of the D&TA initiative on Algorithmic Safety, the Algorithmic Bias Safeguards for Workforce are designed for HR teams to evaluate vendors on their ability to detect, mitigate and monitor algorithmic bias in workforce decisions.

As norms around algorithmic systems and algorithmic bias change, these materials will evolve. We anticipate updates to the Safeguards as the use of these criteria matures, and as industry adapts.

We welcome feedback and your engagement. If you are interested in accessing the Safeguards, please contact us at algorithmicbias@dataandtrustalliance.org.
About the Data & Trust Alliance

The Data & Trust Alliance is a not-for-profit consortium established in September 2020. It brings together leading businesses and institutions to learn, develop and adopt responsible data and AI practices. It is co-chaired by Ken Chenault, chairman of General Catalyst Partners and former chairman and CEO of American Express, and Sam Palmisano, former chairman and CEO of IBM.

dataandtrustalliance.org

Member Companies & Institutions (as of December 2021)

- American Express
- CVS Health
- Deloitte
- Diveplane
- General Catalyst
- Humana
- IBM
- Johns Hopkins University
- Johnson & Johnson
- Johnson Controls
- NFL
- Nielsen
- Nike
- Breyer Capital
- Pfizer
- Regions
- Starbucks
- Under Armour
- UPS
- Walmart

4 M+ employed by Alliance member organizations

$3.2 T+ market capitalization of Alliance companies

$1.5 T+ revenue of Alliance companies in 2020
About the Algorithmic Bias Safeguards for Workforce

Businesses and institutions are increasingly applying data, algorithms and AI to support their workforce decisions—from hiring and promotion to productivity and compensation. These technologies help identify talent in larger and more diverse pools of candidates, better match the right talent to the right opportunity, personalize employee experiences, and automate routine tasks to free up time for more meaningful work.

However, these technologies also come with risks. Alliance member organizations identified unfair bias as one of the highest risks when using these technologies in workforce.

Most of the algorithmic systems used to support workforce decisions are introduced and maintained by vendors—including software providers, professional networking sites, consultants, and recruiting firms.

This prompted the Alliance to develop the Algorithmic Bias Safeguards for Workforce—criteria and education for HR teams to evaluate vendors on their ability to detect, mitigate and monitor algorithmic bias in workforce decisions.

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01 The Safeguards use the terms algorithmic system, AI, AI system, model, and algorithmic decision-making/decision support system collectively and interchangeably to cover several related but distinct terms, including algorithms, statistics, rules, artificial intelligence, machine learning, deep learning, and neural networks, as applicable. Briefly, an algorithm is a finite series of well-defined, computer-implementable instructions or rules. While all AI uses algorithms, not all algorithms use AI. AI in turn includes machine learning, and machine learning in turn includes deep learning. See for example, Rebecca Kelly Slaughter, Algorithms and Economic Justice, 23 Yale J.L. & Tech. Special Issue 1, 2 (2021).

02 The Safeguards define algorithmic bias as predictions or outputs from algorithmic systems that exhibit unjustified differential treatment between two groups. When these groups are distinguished by legally protected characteristics such as disability, race, age, or sex, algorithmic bias may lead to unlawful discrimination. Addressing the problem of algorithmic bias therefore reduces the risk of engaging in unlawful discrimination.
**Safeguards Goals**

The Alliance has three principal goals in the development and distribution of these Safeguards:

1. **Adoption.** Use of these Safeguards across industries will help establish bias mitigation as a key criteria for developing, selecting and safely operating algorithmic systems in HR.

2. **Learning.** We intend to learn from implementation and emerging best practices, and evolve the Safeguards over time.

3. **Partnership with vendors.** This work is designed to support both buyers and vendors. This requires collaboration, partnership, and consistent feedback.

**Adapting the Safeguards**

Organizations are at different stages in their uses of algorithmic systems. Some have robust algorithmic governance processes while others are early in their journey. Not all organizations or vendors are equipped to complete the comprehensive evaluation.

The Safeguards are designed to be used in their complete form, but can be adapted to fit existing systems. An abbreviated Evaluation of 20 questions (from the original 55) is available for foundational compliance.
Components of the Algorithmic Bias Safeguards for Workforce

The Algorithmic Bias Safeguards for Workforce include four components to support organizations that will implement these safeguards into their systems—so they can evaluate potential vendors on their ability to detect, mitigate, and monitor algorithmic bias.

01 Evaluation
55 questions in 13 categories for completion by the HR vendor. Answers are not shared among member companies.

02 Education & Assessment
To enhance algorithmic literacy and to provide detailed guidance for HR teams assessing vendor responses to the Evaluation.

03 Scorecard
To qualitatively grade and compare vendors and document issues.

04 Implementation Guidance
For integrating the Safeguards into an organization’s systems. The Safeguards supplement member companies’ vendor selection procedures.
The Evaluation is a set of questions to evaluate HR vendors on their ability to detect, mitigate, and monitor algorithmic bias—55 questions across 13 categories, designed for use in the RFI/RFP process.

<table>
<thead>
<tr>
<th>Category</th>
<th>What the category evaluates</th>
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</thead>
<tbody>
<tr>
<td>Applicability of the Evaluation</td>
<td>Does the offering employ an algorithmic system? Does the offering influence employment decisions? Offerings that do not apply will not need to complete the Evaluation.</td>
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<tr>
<td>Value Proposition</td>
<td></td>
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<tr>
<td>Purpose &amp; Business Value</td>
<td>How is the system meant to be used, and what business value does it provide?</td>
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<tr>
<td>Addressing Bias Across System Lifecycle</td>
<td></td>
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<tr>
<td>Model Design &amp; Training Data</td>
<td>What measures are taken to detect and mitigate bias in (1) the data used to train the model (2) the design of the model itself?</td>
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<tr>
<td>Model Training</td>
<td>How is bias minimized while ensuring maximum performance during the model training stage?</td>
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<tr>
<td>Bias Testing</td>
<td>Which legally required and emergent best practice tests are used to detect bias?</td>
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<tr>
<td>Bias Remediation &amp; Business Justification</td>
<td>What approaches are used to remediate bias? What is the business justification for any remaining bias?</td>
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<tr>
<td>Deployment &amp; Monitoring</td>
<td>What practices are used to mitigate bias during deployment, as well as ongoing practices to monitor bias in the system?</td>
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<tr>
<td>Addressing Bias Through Organizational Practices</td>
<td></td>
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<tr>
<td>Performance</td>
<td>What measures have been taken (and what documentation is available) to demonstrate that the system performs as intended, and as claimed?</td>
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<tr>
<td>Governance</td>
<td>What governance procedures are in place to insulate against the legal and ethical risk resulting from bias in the system?</td>
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<tr>
<td>Transparency &amp; Accountability</td>
<td>How are transparency, explainability, and override enabled within the system?</td>
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<tr>
<td>Compliance, Standards, Insurance, and Certifications</td>
<td>How well are legal liabilities and related compliance practices understood and addressed?</td>
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<tr>
<td>Education</td>
<td>How thorough is the education for both your organization, and the buyer organization, to properly use the system and mitigate bias?</td>
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<tr>
<td>Ethics &amp; Diversity Commitments</td>
<td>What are commitments to ethical practice—and how have they translated into practice?</td>
</tr>
<tr>
<td>Accommodations &amp; Alternatives</td>
<td>How does the system account for users with varying needs and disabilities—and how are alternatives and opt-in/-out provided, when needed or requested?</td>
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</tbody>
</table>
The Education & Assessment is designed to (1) help an HR buyer or vendor selection teams build a baseline of algorithmic literacy and familiarize themselves with algorithmic bias and (2) assess vendor responses to the Evaluation.

It includes an algorithmic bias primer, an overview of key terms, and deep-dives on each question, providing guidance on how to assess vendor responses.
The Scorecard is designed to help reviewers qualitatively grade and compare vendor responses to each question in the Evaluation.

The scoring can help a reviewer flag which vendors should be advanced or challenged on the basis of algorithmic bias mitigation practices. The Scorecard is not designed as a stand-alone decision tool, but rather helps inform a wider qualitative assessment of a vendor and their offering.
The Implementation Guidance supports bringing the Safeguards into use in an organization. Designed for use by HR teams, procurement practitioners, and governance committees, the Implementation Guidance features instructions for each component of the Safeguards and their intended use.

The Implementation Guidance also includes foundational overviews of algorithmic systems and algorithmic bias, as well as support for communicating about these topics within organizations and with vendors.
The Alliance engaged a breadth of background and expertise—from algorithmic accountability to diversity, equity, and inclusion—in the development of the Algorithmic Bias Safeguards for Workforce.

**Contributors**

The Alliance engaged a breadth of background and expertise—from algorithmic accountability to diversity, equity, and inclusion—in the development of the Algorithmic Bias Safeguards for Workforce.

**200+ experts** from more than 15 industries

**2,000+ hours** of interviews and co-creation sessions

**40%** of contributors from outside the Alliance

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**65 contributors** from academia, government, and civil society—advancing ethics and technical accountability

**20+ vendors** engaged in the development process

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**Key Areas of Expertise**

- **Human Resources** 23.6%
- **Legal/Compliance** 4.7%
- **Model Evaluation** 1.9%
- **Policy** 6.9%
- **Privacy + Global Affairs** 4.1%
- **Procurement** 2.8%
- **Other** 12%
- **Algorithmic Accountability** 9.7%
- **Data & Technology** 28.6%
- **DE&I** 5.7%
Co-chairs
Leadership Council members of the Data & Trust Alliance who shepherded this work

Mike Capps, Diveplane, Chairman & CEO

Bob Darin, Healthcare Analytics and Technology Executive, former Chief Data & Analytics Officer, CVS Health

Nuala O’Connor, Walmart Inc., SVP & Chief Counsel, Digital Citizenship

“For communication about responsible data practices, we must first have a shared language. Then education, especially in such a dynamic field. Next, transparency of vendor practices. And only then can we all collaborate to improve the state of the art.”

Dr. Michael Capps is a well-known technologist and CEO of Diveplane Corporation, a machine learning platform company focused on keeping humanity in AI. Before co-founding Diveplane, Mike had a legendary career in the videogame industry as president of Epic Games, makers of blockbusters Fortnite and Gears of War. For his research in VR, he was featured in SIGGRAPH’s documentary on computer graphics pioneers. He is a regular host of multiple television series on the Discovery and Science channels.

“This is an accelerator—it helps achieve commitments to diversity and equity while enabling broader use of AI tools. The importance of this initiative has been recognized across the hundreds of people that have helped develop this, and it is an important component of overall corporate citizenship.”

Bob Darin is a nationally recognized expert in healthcare analytics. Most recently, he served as chief data officer for CVS Health, and has held executive positions at Bupa Healthcare (UK) and Cardinal Health. He has led the development of data science applications across healthcare settings, and is currently working with several healthcare AI growth-stage companies. Bob holds an honors MBA from the University of Chicago and received a degree in economics from Harvard College.

“This is not only an anti-bias tool. It is an improved outcomes tool—for a time in which talent recruitment and retention are becoming critical for fairness, opportunity, and future business success.”

Nuala O’Connor oversees the Digital Citizenship team responsible for advising Walmart on issues related to privacy, data use and governance, emerging technologies, cybersecurity, and records management. She is a member of the President’s Inclusion Council focused on efforts to promote inclusive environments. Before Walmart, Nuala served in various privacy and trust leadership roles across the public and private sectors, including as the first chief privacy officer for the U.S. Department of Homeland Security.
Core Working Team
Experts drawn from Data & Trust Alliance member organizations, responsible for originating and validating the Safeguards

AI Model Evaluation

Chris Kennedy, Regions Bank, SVP, Strategic Initiatives, Technology & Operations (former Deputy Head, AI Model Evaluation)

“Artificial intelligence and machine learning can amplify, often unintentionally, biased or undesirable outcomes. The initiative is one way to shine a light on this risk and make it easier to do the right thing.”

Data & AI

Anshul Sheopuri, IBM, VP & CTO, Data & AI, HR; IBM Distinguished Engineer

“Trustworthy AI is not just a nice to have but a societal imperative to ensure equal access to opportunity to all. The potential of shaping the future of AI deployed at scale is an exciting yet humbling experience.”

Human Resources

Esther Gallo, Mastercard, SVP, Workforce Analytics and Innovation

“As HR professionals, we have the responsibility to minimize potential bias in our processes and systems. Technology, and especially AI, is going to change how we operate in the HR function, but we need awareness of the associated risks—and to also keep our vendors accountable.”

Legal & Compliance

Kat Robison, Nike, Associate General Counsel, Global Privacy & Security

“The initiative challenged us to proactively consider how to unlock the appropriate and responsible use of AI within our organization. The Evaluation provides a usable framework that helps us feel confident that our use of AI does not unintentionally undermine our broader goals.”

Procurement

Matt Iannetta, CVSHealth, Sr. Director, Enterprise Modernization

“This initiative provided our Procurement organization with an effective evaluation framework to ensure we partner with suppliers that can demonstrate the deployment of responsible AI practices within their organization.”

DE&I

Jonathan Beane, NFL, SVP, Chief Diversity & Inclusion Officer

“The Evaluation is a critical tool that ensures technological advancements are held to a standard of fairness, equity, and the opportunity for all to be evaluated on the merits. It addresses this for the tools of today and, most importantly, for the technological tools of tomorrow.”
Thank You

Connect with Us

The Data & Trust Alliance will continue to learn how these Safeguards meet the needs of industry and the workforce. Contact us at algorithmicbias@dataandtrustalliance.org.