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V1.0: **03/21/2025**

PREPARED BY BABL AI INC.

SUMMARY OF BIAS AUDIT RESULTS

Audit of **Eightfold's Matching Model**
for New York City's Local Law 144

Presented to
Eightfold AI Inc.

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Letter from the Lead Auditor

From: **Shea Brown**
Lead Auditor
BABL AI Inc.
sheabrown@bablai.com

To: **Eightfold AI Inc.**
2625 Augustine Drive
Suite 601
Santa Clara, CA 95054

Re: **Audit Opinion on Eightfold AI Inc.'s Eightfold Matching Model**

03/21/2025

We have independently audited the bias testing assertions and related documentary evidence of Eightfold AI Inc. (the "Company") as of 03/21/2025, presented to BABL AI in relation to Company's Eightfold Matching Model in accordance with the criteria and audit methodology set forth in this report. The goals of this audit are to:

1. Determine whether the bias testing methodologies, controls, and procedures performed by Company satisfy the audit criteria (see Findings)
2. Obtain reasonable assurance as to whether the statements made by the Company, including the summary of bias testing results presented in this report, are free from material misstatement, whether due to fraud or error.

Note that the criteria presented in this report were constructed specifically to address the requirements of a "bias audit" outlined in NYC Local Law No. 144 of 2021. The model was audited as though it were an automated employment decision tool (AEDT) under NYC Local Law No. 144 of 2021, but we do not make any determination whether the model is, in fact, an AEDT under this law.

Company Responsibilities

It is the responsibility of Company representatives to ensure that bias testing and related procedures comply with the criteria outlined in this report. The Company representatives are responsible for ensuring that the documents submitted are fairly presented and free of misrepresentations, providing all resources and personnel needed to ensure an effective and efficient audit process, and providing access to evidential material as requested by the auditors.

BABL AI Responsibilities

It is the responsibility of the lead auditor to express an opinion on the Company's assertions related to the bias testing of the model. In light of the current absence of generally accepted standards for the auditing of algorithms and autonomous systems, our examination was conducted in accordance with the standards and normative references outlined in this report.

Those standards require that we plan and perform audit procedures to obtain reasonable assurance about whether the assertions referred to above 1) satisfy the audit criteria and 2) are free of material misstatement, whether due to error or fraud. Within the scope of our engagement, we performed amongst others the following procedures:

- Inspection of submitted documents and external documentation
- Interviewing Company employees to gain an understanding of the process for determining the disparate impact and risk assessment results
- Observation of selected analytical procedures used in Company's bias testing
- Inspection of the select samples of the bias testing data
- Inquiry of personnel responsible for governance and oversight of the bias testing and risk assessment

We believe that the procedures performed provide a reasonable basis for our opinion.

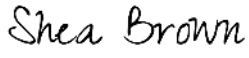
Independence

Our role as an independent auditor conforms to ForHumanity and Sarbanes-Oxley definitions of Independence. Fees associated with this contract are for the provision of the service to assess compliance. The payment of fees is unrelated to the decision rendered. Our decision is grounded solely in the criteria presented below.

Opinion

In our opinion, based on the procedures performed and the evidence received to obtain assurance, the bias testing and results presented by Company, as of 03/21/2025, is prepared, in all material respects, in accordance with the criteria outlined below.

Sincerely,



Shea Brown
Lead Auditor, BABL AI Inc.

System Description

BABL AI was engaged to audit the Eightfold Matching Model (the "model"). The model is built to score a candidate's skills and experience in comparison to the requirements of a specific role and may be used to rank relevant candidates, such as external job seekers or internal employees seeking promotion or other internal mobility.

The model produces an Eightfold Match Score to predict the match of a profile to a position. The Match Score ranges from 0 through 5 in increments of 0.5. The median Match Score for the dataset was used to calculate the scoring rate for applicants belonging to various declared demographic groups. In the context of this bias audit, the word "declared" means gender and/or race/ethnicity data provided to Eightfold by the applicable Eightfold customers or by the applicable applicants themselves (e.g., as part of the application process). The scoring rate for each group is displayed in the summary of the Disparate Impact Quantification results in the Findings section.

Audit Summary

Background

New York City Local Law No. 144 of 2021 requires yearly "bias audits" for automated employment decision tools (AEDTs) used to substantially assist or replace decisions in hiring or promotion. Specifically, the law states that (1) the bias audit must "assess the [AEDTs'] disparate impact" on certain persons, (2) the audit must be conducted by an "independent auditor ... no more than one year prior to the use", and (3) a "summary of the results of the most recent bias audit ... [must be] made publicly available on the website of the employer or employment agency." The audit outlined in this document has been conducted to satisfy the law's requirement for a bias audit only, and does not include other requirements such as candidate notifications. This report does not make any determination whether the model under this audit is, in fact, an automated employment decision tool as defined under NYC Local Law 144, or not.

Auditor Responsibilities

It is the responsibility of BABL AI auditors to:

1. **Obtain reasonable assurance** as to whether the statements made by the auditee are free from material misstatement, whether due to fraud or error,
2. **Determine whether the statements** made by the auditee provide sufficient evidence that the audit criteria (see Findings) have been satisfied, and
3. **Issue an auditor's report** that includes an opinion.

As part of an audit in accordance with good auditing practice, BABL AI exercises professional judgment and maintains professional skepticism throughout the audit. Specifically, BABL AI auditors identify and assess the risks of material misstatement in documents provided by the auditee, perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion, per Public Company Accounting Oversight Board (PCAOB)'s Auditing Standard 1105 on Audit Evidence,[1] where applicable. In addition, this audit report follows International Standard on Assurance Engagements (ISAE) 3000's guidelines on Assurance Report, where applicable.[2]

BABL AI is also responsible for maintaining auditors' independence and objectivity to ensure the integrity of the opinion and certification provided. BABL AI as an organization, and all employee and contract auditors, adhere to strict independence as codified by the

[1] AS 1105: Audit Evidence
[2] ISAE 3000: Assurance Engagements Other Than Audits or Reviews of Historical Financial Information

Sarbanes–Oxley Act of 2002[3] and the ForHumanity's Code of Ethics.[4] In addition, BABL AI Lead Auditors are ForHumanity Certified Auditors under NYC AEDT Bias Audit.[5] For more details about our methodology and process, see Appendix – Audit Methodology.

Scope & Objective

Audit Section	Audit Objective
Disparate Impact Quantification	To ensure that the auditee has conducted sufficient testing of their model to "assess the tool's disparate impact on persons of any component 1 category," – i.e., race and gender – as the minimal requirement for a bias audit under Local Law 144 of 2021.
Governance	To ensure that effective internal governance exists to own, manage, and monitor risks related to bias and fairness.
Risk Assessment	To ensure that risks of the model that potentially contribute to bias have been rigorously identified, acknowledged, and assessed.

Out of Scope

1. The audit did not ensure the sufficient testing of the tool's disparate impact on any other protected class beyond race/ethnicity and gender
2. The audit did not certify that the model is "bias-free"
3. The audit is not intended for compliance purposes for any legislation other than the NYC AEDT law

[3] Sarbanes–Oxley Act of 2002
[4] ForHumanity Certified Auditor Code of Ethics
[5] ForHumanity NYC Bias Audit

Conclusions

Our opinions for the bias audit of **Eightfold Matching Model** are as follows:

Audit Section	Opinion
Disparate impact quantification	PASS
Governance	PASS
Risk assessment	PASS
Overall	PASS

Findings

Note: *The information disclosed under each criterion is not documentary evidence.*

Disparate Impact

Audit Criterion & Subcriteria			Opinion
Q.A.		**System Definition & Analysis Setup:** The auditee shall clearly define and comprehensively describe the system and the methodology used for disparate impact analysis, including a justification for selecting the setup and any relevant assumptions or limitations.	PASS
	1.	**System Description:** Evidence shall show: • The scope, purpose, nature, context of the system; and • How the system is used in the employment context.	
	2.	**Settings or Parameters:** Evidence shall describe: • The system settings or parameters available to users that may affect system output; • Their extents of user configurability; • Their default values, where applicable; and • Justification for why the default values were appropriate.	
	3.	**Analysis Setup:** Evidence shall show: • A description of the setup used to measure disparate impact; and • Justification for why the selected setup is appropriate for disparate impact analysis.	
	4.	**Settings in Analysis:** Evidence shall specify the values of the user-configurable settings or parameters identified in Q.A.2 that were used for the disparate impact analysis of this audit.	
	5.	**Date of Analysis:** Evidence shall show that the most recent analysis was performed within one year of this audit's start date.	
	6.	**Improvements:** If an audit of the system has been previously conducted by BABL AI, evidence shall describe improvements made to the disparate impact analysis since the last audit.	

Testing conducted by: Eightfold AI Inc.
Date of most recent testing: Feb 2025
User-configurable settings that can affect system output: Job requirements calibration process

Settings on which disparate impact was tested: No specific job requirements calibration was set for the testing of disparate impact.

Audit Criterion & Subcriteria			Opinion
Q.B.		**Dataset for Disparate Impact Analysis:** The auditee shall clearly define and comprehensively describe the dataset used for disparate impact analysis, including the justification for the relevance and representativeness of the dataset and any relevant limitations.	PASS
	1.	**Dataset Description:** Evidence shall show a detailed description of the dataset used for disparate impact analysis, including: • Composition; • Timeframe of data collection; • Collection process; and • Any processing steps.	
	2.	**Representativeness & Relevance:** Evidence shall show justification for why the dataset is representative and relevant for disparate impact analysis.	
	3.	**Demographic Data Collection:** Evidence shall describe the method by which demographic data was collected or generated.	
	3.1.	**Inference of Demographic Data:** If demographic data was generated by inference, evidence shall: • Describe the inference method, and • Show justification for why this inference method was appropriate.	

Time span of data: Jan 2023 – Dec 2024

Audit Criterion & Subcriteria			Opinion
Q.C.		**Demographic Categories & Groups:** The auditee shall specify the demographic categories and groups that are included in disparate impact analysis.	PASS
	1.	**Demographic Categories:** Evidence shall specify demographic categories that are included in the disparate impact analysis, and shall show that, at least, those categories include race/ethnicity and gender.	
	2.	**Gender Groups:** Evidence shall show that the demographic groups for gender include at least: "Male," and "Female".	
	3.	**Race/Ethnicity Groups:** Evidence shall show that the demographic groups for race/ethnicity include at least White, Black or African American, Hispanic or Latino, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and Two or More Races.	
	3.1.	**Substituted Groups:** If the demographic groups for race/ethnicity do not include all categories listed in criterion Q.C.3, evidence shall show justification for why such demographic groups were not included, and, if applicable, justification for any substituted groups.	
	4.	**Intersectional Groups:** Evidence shall show that intersectional groups include all permutations of gender and race/ethnicity groups.	

Demographic categories: The following demographic categories were assessed for disparate impact:[6]

1. Gender
2. Race/ethnicity

[6] Demographic categories outside of the scope of this analysis include, but not limited to: age, immigration or citizenship status, disability status, marital status and partnership status, national origin, pregnancy and lactation accommodations, religion/creed, sexual orientation, veteran or Active Military Service Member status.

Audit Criterion & Subcriteria			Opinion
Q.D.		**Metrics for Disparate Impact Analysis:** The auditee shall appropriately define the metrics used for disparate impact analysis and define and justify the chosen metric for the context of this analysis.	PASS
	1.	**Selection Rate or Scoring Rate:** Evidence shall: • Specify whether the analysis was performed using selection rate or scoring rate, and • Define the selection rate or scoring rate as applied in the analysis.	
	2.1.	**Positive Outcome:** If selection rate is used, evidence shall show: • The definitions of the positive and negative outcomes in the employment context, and • A justification for why such definitions are appropriate based on the context of the use of the system.	
	2.2.	**Thresholds for Positive Outcome:** One or more thresholds are used to determine positive/negative outcome for selection rate, evidence shall show justification for why the level (levels) of threshold was (were) appropriate given the intended use of the system.	

Method of quantifying disparate impact: Scoring rate, as defined by the proportion of a demographic group having a match score above the median match score of the population.
Positive outcome: N/A, due to the use of scoring rate method

Audit Criterion & Subcriteria			Opinion
Q.E.		**Disparate Impact Calculations:** The auditee shall calculate selection rates or scoring rates, impact ratios, for all demographic categories and groups and provide a justification explaining potential contributing factors if any impact ratio falls below 0.8.	PASS
	1.	**Results and Calculations:** Evidence shall show, for all demographic groups listed in criteria Q.C.2, Q.C.3, and Q.C.4: • The number of applicants or candidates; • Selection rates or scoring rates; • Impact ratios; and • That the calculations for selection or scoring rates, and for impact ratios are accurate.	
	2.	**Unknown Groups:** If a gender, race/ethnicity, or intersectional group is not known for a sample of candidates assessed by the system, evidence shall show the sample size of such a group.	
	3.	**Exclusion of Groups:** If a demographic group accounts for less than two percent (2%) of the total sample size of its respective demographic category, such group may be excluded from impact ratio calculation, but evidence shall nonetheless show the sample size, and the selection rate or scoring rate for such group.	
	4.	**Uncertainty Analysis:** Evidence shall show results of uncertainty analysis of selection rates or scoring rates and impact ratios.	
	5.	**Fourth-Fifths Rule:** If the impact ratio of a demographic group is below 0.8, evidence shall provide a justification based on the potential sources of such outcome.	
	6.	**Statistical Significance:** If selection rate is used, evidence shall show, for all demographic groups, calculations of statistical significance of the difference between the selection rates of two groups.	

Non-intersectional, Gender, sorted by Scoring rate

	N applicants[7]	Scoring rate	Impact ratio
Female	9,536,189	0.624	1.000
Male	11,927,924	0.599	0.932

Non-intersectional, Race/ethnicity,[8] sorted by Scoring rate

	N applicants[6]	Scoring rate	Impact ratio
Two or more races	890,850	0.672	1.000
Native American or Alaskan Native	129,219	0.670	0.998
Native Hawaiian or Pacific Islander	55,252	0.670	0.997
Hispanic or Latino	2,601,742	0.669	0.996
White	5,903,792	0.664	0.989
Black or African American	2,368,833	0.664	0.989
Asian	4,285,766	0.643	0.957

Intersectionals

			N applicants[6]	Scoring rate	Impact ratio[9]
Hispanic or Latino	Female		1,421,541	0.696	1.000
	Male		861,116	0.638	0.917

[7] As used in this report, "N applicants" refers to the number of applications, not the number of individual applicants because the same applicant may apply for different jobs.
[8] Except for "Hispanic or Latino," all race/ethnicity categories are non-Hispanic or Latino.
[9] N/A refers to the demographic group representing less than 2% of the total N applications in the table. Numbers in red indicate values below the four-fifths rule.

			N applicants[6]	Scoring rate	Impact ratio[9]
Non-Hispanic or Latino	Male	Asian	2,353,117	0.651	0.936
		Two or more races	323,120	0.648	0.931
		Native Hawaiian or Pacific Islander	19,616	0.643	0.925
		Native American or Alaskan Native	49,770	0.640	0.920
		White	2,268,943	0.637	0.916
		Black or African American	712,589	0.631	0.908
	Female	Two or more races	393,436	0.693	0.997
		Native Hawaiian or Pacific Islander	23,790	0.693	0.996
		White	2,537,756	0.689	0.991
		Native American or Alaskan Native	53,334	0.688	0.989
		Black or African American	1,088,013	0.670	0.963
		Asian	1,451,870	0.631	0.907

Note: Data on these applicants was not included in the calculations above:

1. 53,235,349 applications with an unknown gender category
2. 60,263,080 applications with an unknown race/ethnicity category, and
3. 50,852,137 applications with at least an unknown gender or an unknown race/ethnicity

Governance

Audit Criterion & Subcriteria			Opinion
G.A.		**Accountable Party:** The auditee shall have a party who is accountable for risks related to disparate impact.	PASS
	1.	**Identity:** Evidence shall document the people (individual or committee) who are accountable for risks related to disparate impact.	
	2.	**Accountability:** Evidence shall briefly describe the way in which this party is accountable for risks related to disparate impact.	

Accountable party: Responsible AI Team
Contact information: Legal Department, legal@eightfold.ai
Role in the auditee organization: A cross-functional responsible AI working group including Chief AI Compliance Officer, and product, engineering, legal, and security representatives.

Audit Criterion & Subcriteria			Opinion
G.B.		**Defined Duties:** The specific duties of the party accountable for disparate impact risks shall be clearly defined.	PASS
	1.	**Duties:** Evidence shall provide a list of the specific duties of the accountable party relevant to ownership, management, and monitoring of disparate impact risks.	
	2.	**Influence over Product:** Evidence shall show that the accountable party has meaningful influence over product changes.	

Audit Criterion & Subcriteria			Opinion
G.C.		**Duties Carried Out:** The auditee shall provide evidence that the defined duties of the party accountable for disparate impact risks are carried out.	PASS
	1.	**Prior to Audit:** Evidence shall show that the defined duties were carried out prior to the start date of this audit.	

Risk Assessment

Audit Criterion & Subcriteria			Opinion
R.A.		**Completion:** The auditee shall complete a risk assessment of the system, define the risk assessment scope, identify all involved parties, document its relationship to Disparate Impact and Governance sections, and, if applicable, document improvements to the risk assessment.	PASS
	1.	**Completion Date:** Evidence shall show that a risk assessment was completed less than one year prior to the issuance date of this audit	
	2.	**Scope:** Evidence shall document the scope, goals, and limitations of the risk assessment.	
	3.	**Participants:** Evidence shall document the people who conducted the risk assessment.	
	4.	**Relationship to Disparate Impact and Governance:** Evidence shall briefly describe how the risk assessment relates to other audited activities, including Disparate Impact and Governance sections for NYC Local Law 144 audits.	
	5.	**Improvements:** If an audit of the system has been previously conducted by BABL AI, evidence shall describe improvements made to the risk assessment since the last audit.	

Evidence of Risk Assessment completion: Screenshots from risk register dashboards in project management system, meeting minutes, and verbal testimony from maintainers of the risk register system

Audit Criterion & Subcriteria			Opinion
R.B.		**Risk Analysis:** The risk assessment shall identify relevant risks (as possible negative outcomes). The risk assessment shall analyze each risk along the following dimensions: risk identification, stakeholder identification, severity, likelihood, risk source, and controls.	PASS
	1.	**Risk Identification:** Evidence shall show a description of each risk (or possible negative outcome).	

	2.	**Stakeholder Identification:** For each identified risk, evidence shall identify the stakeholder (or stakeholders) who may be negatively impacted.	
	3.	**Severity:** For each identified risk, evidence shall provide a severity score.	
	4.	**Probability:** For each identified risk, evidence shall provide a probability (or likelihood) score.	
	5.	**Risk Source:** For each identified risk, evidence shall document risk source (or sources), or indicate as unknown.	
	6.	**Controls:** For each identified risk, evidence shall document control (or controls), or indicate as unknown.	

Audit Criterion & Subcriteria			Opinion
R.C.		**Prioritization:** Evidence shall demonstrate that relevant risks have been prioritized using an appropriately justified prioritization method.	PASS
	1.	**Description of Prioritization Method:** Evidence shall describe the general method used to assign priority levels.	
	2.	**Justification of Prioritization Method:** Evidence shall show justification for the choice of the prioritization method.	
	3.	**Prioritization:** For each risk, evidence shall document a priority level.	
	4.	**Justification of Prioritization for Each Risk:** Evidence shall show justification for the priority level assigned to each specific risk.	

Appendix

Audit Methodology

The Criterion Audit

The BABL AI audit framework is the *Criterion Audit Framework*,[10] defined as "a criteria-based independent external evaluation of an algorithmic system conducted by an auditor to determine whether the given system meets the requirements set by a normative framework." A criterion audit is modeled after the financial auditing practice, and is distinguished from other commonly used forms of assessment of algorithms, such as internal audits, critical third-party audits, and risk or impact assessments. The audit framework contains three main phases:

1. **Scoping** – The auditor conducts a preliminary survey of the auditee's algorithm to gain a full understanding to contextualize documentary evidence
2. **Evaluation & Verification** – The auditee submits documentation containing evidence demonstrating satisfaction of the audit criteria which the auditors evaluate and verify.
3. **Certification** – If the auditee is determined to pass the audit criteria, the auditor drafts the auditor's report and certifies the auditee's algorithm.

Evaluation & Verification

The procedure for all BABL AI auditors to conduct a criterion audit follows the guidelines set forth in the Public Company Accounting Oversight Board (PCAOB)'s Auditing Standard 1105 on Audit Evidence, where applicable. Specifically, the auditors:

1. **Obtain audit claims and statements** from the auditee's submitted documentation which either support or contradict the criteria and sub-criteria,
2. **Evaluate the claims and statements** in regard to satisfying the criteria and sub-criteria, based on the *sufficiency* and *appropriateness* of the evidence, and
3. **Verify that the claims and statements** made by the auditee are free from material misstatement, whether due to fraud or error.[11]

[10] Lam, K., Lange, B., Blili-Hamelin, B., Davidovic, J., Brown, S. & Hasan, A. (2024). A Framework for Assurance Audits of Algorithmic Systems. In *Proceedings of the 2024 ACM Conference on Fairness, Accountability, and Transparency*, FAccT '24. ACM, June 2024. doi: 10.1145/3442188.3445924.
[11] "Reasonable assurance" is a high level of assurance but is not a guarantee that an audit conducted in accordance with good auditing practice always detects a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the decisions of stakeholders taken based on these statements.

In addition, evaluation and verification of claims and statements may involve requesting additional supporting documentary evidence, and/or interviewing those responsible for the governance of the algorithm, other relevant employees of the auditee organization, or other third parties referenced in the submitted documentation.

At the end, the auditors reach an audit opinion based on:

1. The sufficiency and appropriateness of the audit evidence, and
2. The risk of material misstatement of the audit evidence.

Terminologies & Definitions

Term	Abbrev	Definition
automated employment decision tool	AEDT	"any computational process, derived from machine learning, statistical modeling, data analytics, or artificial intelligence, that issues simplified output, including a score, classification, or recommendation, that is used to substantially assist or replace discretionary decision making for making employment decisions that impact natural persons." – see § 20-870 of the Code and § 5-300 of the adopted rule for full definition
disfavored group		any gender or race/ethnicity group not having the highest selection rate or average score
disparate impact or adverse impact		"a selection rate for any race, sex, or ethnic group which is less than four-fifths (⅘) (or 80%) of the rate for the group with the highest rate will generally be regarded by the Federal enforcement agencies as evidence of adverse impact" – see § 60-3.4.D of UGESP (1978) for full definition
error propagation		calculation or computation of a variable's uncertainty that is dependent on another variable's uncertainty
favored group		the gender or race/ethnicity group having the higher selection rate or average score compared to the other groups
impact ratio		"either (1) the selection rate for a category divided by the selection rate of the most selected category or (2) the scoring rate for a category divided by the

Term	Abbrev	Definition
		scoring rate for the highest scoring category. " – see § 5-300 of the adopted rule for full definition
scoring rate		"the rate at which individuals in a category receive a score above the sample's median score, where the score has been calculated by an AEDT"
justification		a compelling reason that illuminates the issue and carries normative force, as opposed to solely explanatory power
positive outcome		the basis for selection rate, the favorable outcome for a candidate from the use of the model, such as being selected to move forward in the hiring process or assigned a classification by an model
protected category variables	PCV	defined per jurisdiction, equivalent to protected class, including but not limited to: race/ethnicity, age, gender, religion, ability or disability, sexual orientation, color, nation of origin, socioeconomic class
risk assessment		an assessment of the risk that the use of the algorithm negatively impacts the rights and interests of stakeholders, with a corresponding identification of situations of the context and/or features of the algorithm which give rise or contribute to these negative impacts[12]
selection rate		"the rate at which individuals in a category are either selected to move forward in the hiring process or assigned a classification by an AEDT" – see § 5-300 of the adopted rule for full definition
testing dataset		the dataset used to test for or quantify disparate impact
uncertainty analysis		calculation or computation to quantify the uncertainty of a variable, outputting errors or error bars

[12] Hasan, A., Brown, S., Davidovic, J., Lange, B., & Regan, M. (2022). Algorithmic Bias and Risk Assessments: Lessons from Practice. *Digital Society*, 1(1). doi: 10.1007/s44206-022-00017-z.