

# Press Release: Introducing EquiHire – AI-Powered Bias Detection for Fair Hiring

*Syed Huma Shah (ss1516), Anastasiia Saenko (as1466), Mobasserul Haque (mh720), Eleanor Jiang mj340), Mona Saeed (mts79)*

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– Today, we are excited to announce **EquiHire**, an AI-powered platform designed to help companies eliminate bias from their hiring process. Leveraging cutting-edge machine learning and NLP, EquiHire scans job descriptions, hiring trends, and promotion data to uncover unconscious biases, ensuring equitable hiring decisions and fostering diverse workplaces.

**The Problem:** Despite increasing awareness, gender and racial bias still persist in hiring. Studies show that women and underrepresented minorities receive fewer callbacks, lower salaries, and fewer promotions in technical roles. Traditional diversity training programs are often ineffective, failing to provide actionable insights.

**The Solution:** EquiHire is an AI-driven SaaS platform that:

- **Audits job descriptions** for biased language and provides inclusive alternatives.
- **Analyzes hiring and promotion trends** to detect systemic patterns of bias.
- **Provides real-time recommendations** for interviewers and hiring managers to reduce bias.
- **Integrates with HR tools** (Greenhouse, Lever, Workday) to provide data-driven DEI insights.

"EquiHire is not just about compliance; it's about creating a hiring culture where diverse talent can thrive," said Mona Saeed, Founder and CEO.

EquiHire will launch in **Q1 2026**, with select enterprise partners already piloting the platform. Companies can sign up for early access.

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## FAQ: Addressing Key Concerns

### 1. How does EquiHire detect bias in job descriptions?

EquiHire uses NLP models trained on large datasets of biased vs. unbiased job descriptions. It flags exclusionary language (e.g., “rockstar developer,” “aggressive sales leader”) and suggests more inclusive alternatives based on gender-neutral and diversity-friendly phrasing.

### 2. How does it analyze hiring trends?

By integrating with HR software, EquiHire applies statistical fairness tests (e.g., disparate impact analysis) to hiring data, detecting trends such as:

- Women being disproportionately rejected at the resume screening stage.
- Underrepresented minorities being hired at lower salary bands than peers.
- Promotion rates differing significantly across demographic groups.

### 3. Can it integrate with existing hiring platforms?

Yes. EquiHire offers APIs and plug-ins for major ATS (Applicant Tracking Systems) like Greenhouse, Workday, and Lever.

### 4. How do you ensure EquiHire itself isn't biased?

We use explainable AI (XAI) techniques, maintain diverse training datasets, and audit our models using fairness metrics like equalized odds and demographic parity.

### 5. What's the business model?

EquiHire operates as a **B2B SaaS** platform, with pricing tiers based on company size and hiring volume. Additional consulting services are available for deeper DEI strategy development.

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## Technical Appendix / Proof of Concept (POC)

### Mathematical Foundations

#### Bias Detection in Job Descriptions

We use **word embedding models** (e.g., Word2Vec, BERT) to measure bias in job descriptions. Given a job post  $J$ , we represent words as vectors and compute similarity scores to known biased/unbiased terms:

$$Bias\ Score(J) = \frac{1}{|J|} \sum_{w \in J} \cos(w, b)$$

where:

- $w$  is the word vector of word  $w$ .
- $b$  is the vector representation of known biased words.
- $\cos(w, b)$  measures semantic similarity.

If the bias score is above a threshold  $\tau$ , we flag the job description and suggest edits.

## Fairness in Hiring Trends

To detect hiring bias, we apply the **disparate impact ratio**:

$$DI = \frac{p_{minority}}{p_{majority}}$$

where:

- $P_{minority}$  = selection rate for underrepresented groups.
- $P_{majority}$  = selection rate for dominant groups.

A **DI** < **0.8** indicates potential bias, as per EEOC guidelines.

Additionally, we use **statistical hypothesis testing** to check for significant differences in hiring rates:

$H_0: P_{minority} = P_{majority}$

We calculate the **p-value** to determine if the observed disparity is statistically significant.

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## POC Code: Bias Detection in Job Descriptions (Python)

```
import spacy
from sklearn.metrics.pairwise import cosine_similarity
import numpy as np

# Load word embeddings
nlp = spacy.load("en_core_web_md")

# Known biased words (can be expanded)
biased_terms = ["rockstar", "ninja", "dominant", "aggressive"]
biased_vectors = np.array([nlp(word).vector for word in biased_terms])

def compute_bias_score(job_description):
    doc = nlp(job_description)
    job_vectors = np.array([token.vector for token in doc if token.is_alpha])

    if len(job_vectors) == 0:
        return 0 # No words to analyze

    bias_scores = cosine_similarity(job_vectors, biased_vectors).mean()
    return bias_scores
```

```
# Example
job_post = "We are looking for a rockstar developer with aggressive growth strategies."
bias_score = compute_bias_score(job_post)
print(f"Bias Score: {bias_score:.2f}")
```

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## POC Code: Fairness Analysis in Hiring Data (Python)

```
import pandas as pd
from scipy.stats import chi2_contingency

# Sample hiring data
data = {
    "Group": ["Men", "Women"],
    "Applicants": [200, 200],
    "Hired": [50, 30]
}

df = pd.DataFrame(data)
df["Selection Rate"] = df["Hired"] / df["Applicants"]

# Compute Disparate Impact
di_ratio = df.loc[1, "Selection Rate"] / df.loc[0, "Selection Rate"]
print(f"Disparate Impact Ratio: {di_ratio:.2f}")

# Chi-Square Test for statistical significance
contingency_table = [[50, 150], [30, 170]]
chi2, p, _, _ = chi2_contingency(contingency_table)

print(f"Chi-Square Test p-value: {p:.5f}")
if p < 0.05:
    print("Significant hiring bias detected!")
else:
    print("No statistically significant hiring bias found.")
```

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## Next Steps

- **Build MVP:** Expand the bias dictionary and refine fairness models.
- **Pilot with Companies:** Partner with HR teams to test real-world impact.
- **Secure Funding:** Seeking \$1M in seed funding to scale engineering and sales.