AI Recruiting System

Jay Kuo

Traditional Hiring Process

| 1 | 2 | 3 | 4 |

Job Posting

The recruiter creates a job posting, defining the required skills and qualifications regardless of inclusion and diversity.

Candidate Application

Candidates complete an application by answering standardized prompts that every candidate must respond to.

Online Assessment

Candidates will complete random assessments from a pre-defined set of tasks. The tasks are not tailored to individual profiles.

Candidate Evaluation

Recruiters will evaluate candidates based on assessment results and how closely their resumes match the job posting

Limitations of Traditional Hiring Process

Bias & Diversity Gap

Traditional hiring often relies on subjective criteria and personal biases, leading to a lack of diversity and underrepresentation of underserved groups.

(Quillian and Lee)

Inefficient Screening

Manual resume screening and interviews can be time-consuming and ineffective. Automated screening with AI enhances efficiency, reduces bias, and improves evaluations.

(Lacroux and Martin-Lacroux)

Missed Opportunities

Traditional hiring methods often overlook exceptional candidates who don't fit the typical profile, excluding "hidden workers" with valuable skills.

(Fuller et al.)

Reducing Bias in the Hiring Process

Blind Screening

Remove identifying information from resumes and applications to focus on skills and qualifications, rather than personal characteristics that can introduce bias.

Diverse Interview Panels

Assemble interview teams that reflect the diversity of your organization, ensuring multiple perspectives and reducing the impact of individual biases.

AI-Powered Assessments

Leverage AI-based assessment tools that analyze candidates' abilities objectively, without the influence of human biases or subjective decision-making.

Continuous Monitoring

Regularly audit the hiring process to identify and address any areas where bias may be creeping in, and make adjustments accordingly.

Blind Screening for Unbiased Hiring

- **Resume Anonymization:** Remove names, photos, and contact details from resumes to focus on skills and qualifications, reducing unconscious bias and promoting a fair hiring process (Manok).

- **Skill-Based Assessments:** Utilize AI-powered assessment tools that evaluate candidates' technical abilities, problem-solving skills, and cognitive aptitude without considering personal characteristics.

- **Standardized Scoring:** Implement a consistent, objective scoring system that assesses candidates based on pre-determined, job-relevant criteria, ensuring fairness and transparency throughout the process.

Diverse Interview Panels

- **Reduce Bias:** A diverse panel counteracts individual biases, leading to fairer assessments. AI recruiting systems, despite aiming for neutrality, can inherit biases from historical data (Commerce.gov).

- **Inclusive Representation:** Diverse interviewers show that your organization values inclusivity, mitigating AI biases and ensuring balanced evaluations (Ongig).

- **Broader Perspectives:** Diverse experiences provide comprehensive insights into a candidate's potential, balancing AI limitations with human judgment (Zoe Talents).

AI-powered Assessment

Recruiters

- Generative AI identifies necessary skills and requirements

- It generates assessment prototypes to align with recruiter expectations

- Provides analytics on candidate performance to refine assessment criteria

Candidates

- AI scans resumes for ambiguities with job descriptions

- Prompts candidates for clarification if needed

- Displays the approved assessment, addressing recruiter concerns, before presenting it to the candidate

Continuous Monitoring

Feedback loops

- Enable candidates and interviewers to report perceived biases.

- Continuously improve the hiring process using this feedback

- Update training and protocols based on feedback to ensure fairness

AI oversight

- Regularly review and update AI algorithms for fairness

- Validate AI decisions against human judgment

- Mitigate biases from flawed training data (Raghavan and Barocas)

Accountability

- Make bias audit results publicly available

- Hold hiring teams accountable for implementing changes

- Foster trust with a commitment to fair practices (Nini)

AI-Powered Recruiting Process

1	2	3	4

Job Posting

AI systems should analyze job postings to identify and mitigate potential biases by eliminating biased language and promoting inclusivity. (Dalton and Villagran)

Candidate Application

After candidates answer standardized prompts, Generative AI will compare the application to the job posting, ask further questions, and update the database with the information.

Tailored Assessments

AI selects tests from the database based on weaknesses identified by comparing the application with the job posting, ensuring job alignment and reducing bias.

Candidate Evaluation

The AI ranks candidates based on matching results and assessment performance with full transparency. Recruiters can assign weights to features from an unbiased set.

Job Posting

1

2

3
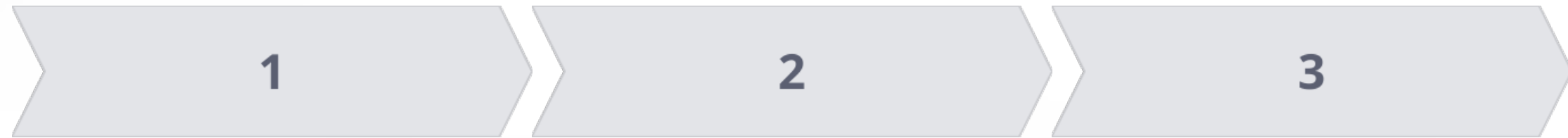
Upload Job Description

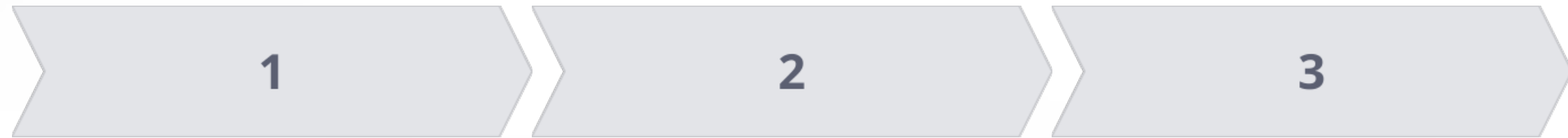Recruiter uploads the job description to the platform

Bias Scoring and Highlighting

AI analyzes the job description and assigns a bias score

Content Modification and Resubmission

Reviews the highlighted parts and modifies the content as needed.

Candidate Application

1	2	3

Answer Standardized Prompts

These prompts are the same to every candidates

Tailored Additional Questions

AI analyzes the candidate's answer and generate additional question

Information Storage

AI will extract features from the candidates' answer and store in database

AI-Powered Recruiting Process

3	4

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Demo

Candidates ranking page

- Unbiased Features

- No personal identifiers

- Customizable weights

- Consistent unbiased results

Candidates Ranking for Data Engineer position

ID	Tech Skills	Soft Skills	Experience	Degree	Assessment	Score
10110	98%	99%	99%	97%	97%	98%
10113	97%	96%	98%	96%	95%	96%
10108	98%	96%	98%	94%	87%	94%
10104	96%	96%	97%	93%	85%	92%
10123	97%	96%	95%	91%	80%	90%

Demo

- Overall Score and Assessment breakdown

- Privacy protection

- Listed strengths and areas for improvement

- Suggestions for next step for the recruiters

98
Overall Score

Candidate 10110 scored 98 out of 100.
Application date: May 24, 2024
Degree: Computer Science
Assessment score: 95
Skills match: 99

Summary	Suggestion

Pros
- Professional experience: Senior data engineer with over four years of experience.
- Technical skills: Python, SQL, Jave, Hadoop, Spark
- Experienced with AWS, Google Cloud Platform, Docker.
- Certifications: Google Cloud Data Engineering Professional Certificate

Cons
- Failed to pass advanced Java assessment (Question code: 118)

Demo

Suggestion tab

- Additional online assessment

- Meeting Scheduling

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Summary	Suggestion

Additional Assessment:
- Send Question code 119 to candidate to test Java proficiency.

Click to send

Arrange interview

Calendar

Demo

- AI-Generated Prompt

Top 10 Python Libraries

Pandas Data analysis and manipulation		**NumPy** Mathematical functions	
Matplotlib Data visualisations		**SeaBorn** Data visualisations	
Tensorflow Machine Learning		**Keras** Deep Learning	
SciPy Scientific computing		**PyTorch** Machine Learning	
Scrapy Web crawling		**SQLModel** Interact with SQL databases	

DATA RUNDOWN

Additional Problems:

You mentioned you know Java, but are you familiar with the **ConcurrentHashMap** class? If yes, please explain how you have used it in a past project.

For this job, you need experience with real-time data processing frameworks such as **Apache Kafka**. This wasn't mentioned in your resume. Can you describe any experience you have with Apache Kafka, and if yes, explain how you have used it in the past?

First Source Interview

Interviewee: Jolin Tsai

- Job hunting market can have a huge number of applicants for just 1 or 2 job openings. It would be great to see how this system works toward scalability.

- It is very impressive to see the "tailored assessment" part as the pre-screening for candidates. Nice approach!

Jolin Tsai is a software engineer who has 1 year and 11 months experience at the company F5, the interview took place on May 28th, 2024, 9PM-9:30PM.

Conclusion:

The Benefits of my AI recruiting system

1 **Enhanced Fairness**

AI-driven processes reduce bias by focusing on objective criteria and transparent evaluations, ensuring a fair and equitable hiring process.

2 **Efficiency Gains**

Tailored assessments and automated screening streamline the hiring process, saving valuable time for both recruiters and candidates.

3 **AI Engagement**

After candidates answer prompts, AI compares responses to job requirements, asks follow-up questions, and updates the database for accurate candidate fit. (Bist et al.)

4 **Transparent evaluation**

AI ranks candidates transparently. Recruiters use unbiased features, ensuring fair evaluations and promoting diversity.(Dutta et al.)

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