

Algorithms in Hiring Tests Make it Easier to Discriminate Against People with Disabilities

Plain Language Report



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When you apply for a job today, a computer might decide if you get an interview. A computer program might even decide if you get hired.

These computer programs often use tools called algorithms.

When people apply for jobs, sometimes they record videos of themselves. Sometimes they take personality tests. Sometimes they even play a type of video game. An algorithm will interpret how a person does on these tests to decide if they should be hired.

This paper will talk about what algorithms are and how they can hurt people with disabilities. This paper also talks about what kind of tests employers are allowed to use. And it gives ideas for what people can do to make sure employers make fair hiring decisions.

1. What are algorithms?

Algorithms are sets of “if, then” questions. They try to help people answer hard questions by breaking them down into lots of easier questions. Algorithms can look like flowcharts. People start with one question. The answer to that question tells them which question is next.

Some computer programs use algorithms to make decisions automatically.

Many people like algorithms. They say that algorithms can make fair decisions because algorithms have to follow rules. They say that algorithms can make better decisions than people because people might be unfair.

Other people do not like algorithms. They say that people make algorithms. So the algorithms will only follow rules that people make. If the people make unfair rules, the algorithms will be unfair.

Sometimes people have bias. Bias means having unfair opinions about other people or groups. People have bias against women, people of color, or disabled people. If people with bias against women make an algorithm, the algorithm might also have bias against women.

2. How do employers use algorithms to hire people?

Lots of employers use algorithms to make decisions about hiring. For example, most companies with more than 100 employees ask their staff to take personality tests. Many of those companies use algorithms to make decisions about the results of those personality tests.

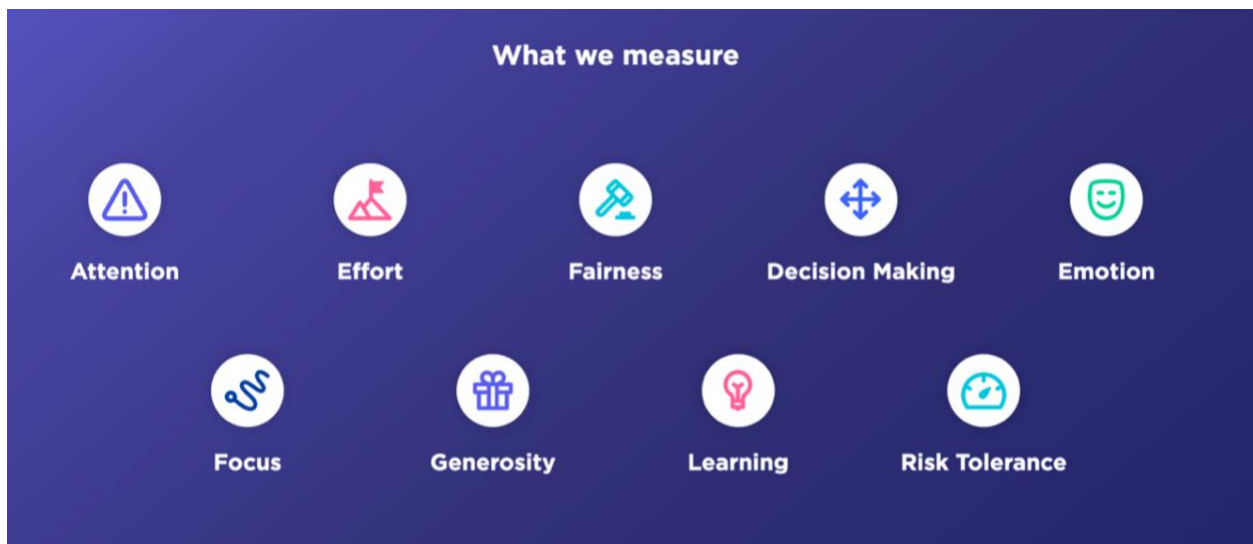


Figure 1: Screen capture of factors measured through gamified testing, measuring cognitive and emotional attributes, November 24, 2020

33% of businesses use algorithms that make decisions automatically. For example, over 100 companies use one specific facial recognition algorithm. That algorithm has looked at over 1 million people's videos.

Employers use many kinds of algorithms to make decisions about hiring. These algorithms can pick people who will get interviews for a job. These algorithms can also pick people who will get rejected for a job.

These algorithms try to guess who will be successful at a job. The algorithms make decisions using information about people who are already successful at a job.

Here are some examples of algorithms that make decisions about hiring:

- **Resume screening.** People have to send their resumes to apply for a job. An algorithm reads the resumes. It can look for words or patterns. It can figure out if people have been unemployed for periods of time.
- **Face and voice recognition.** People have to record themselves on video. An algorithm will look at the people's faces and bodies. It will listen to the words people say. It will listen to what people's voices sound like. An algorithm uses this information to make guesses about people's personalities and abilities.
- **Games.** People have to play a simple video game. An algorithm can test how well people play the game. It can test how quickly people react in the game.
- **Personality tests.** People have to take a personality test or IQ test. An algorithm makes guesses about people's personalities. It makes guesses about how smart people are.

Hiring algorithms can look at different parts of people's lives. Here are some examples of what algorithms are looking for:

- **Personality.** Algorithms try to guess if people are open or caring. They try to guess if people like being around other people. They can guess if people feel good emotionally, and if people are okay with change.
- **Mental abilities.** Algorithms try to figure out how quickly people react to things. They try to guess how long people will pay attention. They try to figure out how people make decisions while under pressure. They try to figure out how people deal with problems. They try to figure out how big people's vocabulary is.

- **Fitting in.** Algorithms try to guess if people will like a job. They try to figure out what keeps a person going. They also try to figure out what people want at work or care about in life.

Most of the time, companies create algorithms by testing them on people who already work for them. The company can have employees take the same test that people applying for jobs will take. Then the company collects information about the employees. The company teaches the algorithm to figure out how successful employees do on the tests.

For example, a personality test might show that successful employees have positive attitudes. People applying for jobs then take the same test. If the test shows they have a positive attitude, they will get a higher score.

3. How can algorithms for hiring be ableist?

Ableism is bias against people with disabilities. Ableism says that disabled people are bad or wrong.

Ableism is a way of thinking and doing that hurts people with disabilities. Ableism can mean bias against people with disabilities. Remember that bias means having unfair opinions about a group.

Ableism can mean prejudice. Prejudice is making bad assumptions about a group. For example, when other people assume that people with disabilities can't make decisions for themselves.

Ableism can mean discrimination. Discrimination is treating different groups unfairly. For example, when people with disabilities are paid less than minimum wage.

Ableism can mean oppression. Oppression is when bias or prejudice are backed up by power. Oppression happens when people in one group don't have power in society.

Ableism happens when people with disabilities don't have power in society.

Algorithms can have the same biases as people who make them. Hiring algorithms are ableist if they stop disabled people from getting jobs.

These algorithms believe that people should only be hired if they are like people who already work at a company. But many people with disabilities have a hard time finding work.

12% of all working-age people are disabled. But more than 50% of all poor people are disabled. 79% of all people have a job. But only 37% of disabled people have a job. And only 20-25% of people with mental illnesses have a job.

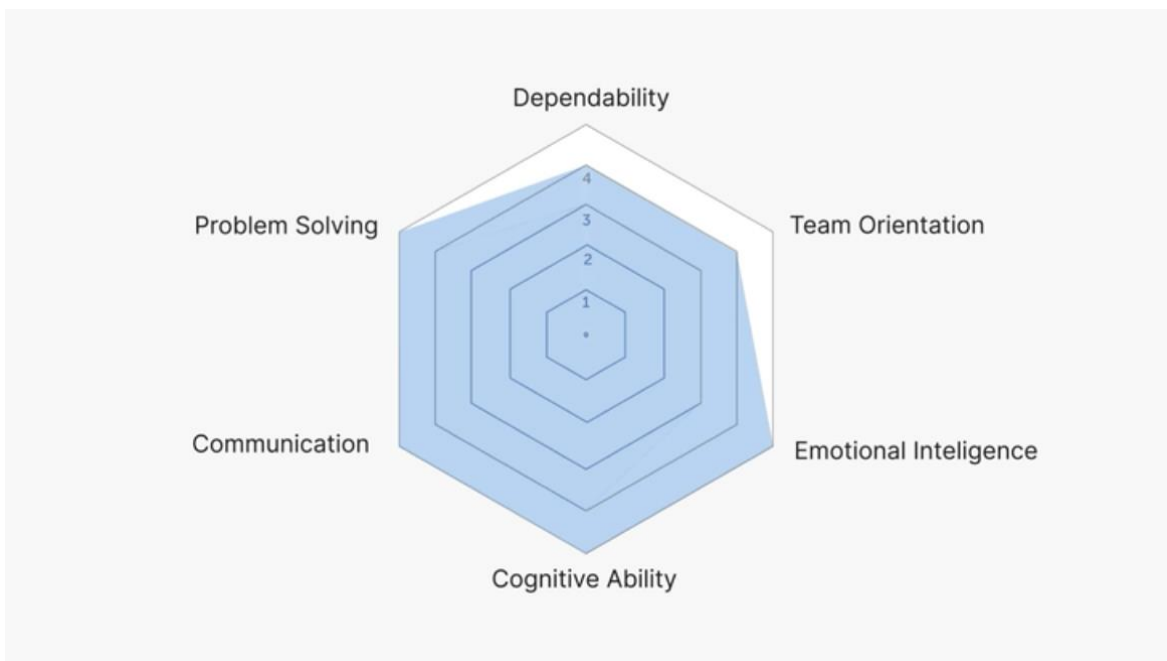


Figure 2: Screen capture of factors measured by gamified tests and recorded interview, November 24, 2020.

Lots of employers think that disabled people can't do a good job or follow directions. They may think that people with disabilities are not smart. They may think that people with disabilities are lazy and have bad attitudes.

They may not want to hire people who have short or long gaps on a resume. Many disabled people have gaps because of disabilities or because of discrimination. So employers don't hire disabled people. When that happens, algorithms won't have many examples of disabled people who succeed.

Many people don't tell employers if they have a disability. And disabled people who deal with racism or sexism have a harder time finding jobs.

Racism is bias against people of color. Racism says that Black, Native, Latinx, or Asian people are not as good as white people.

Sexism is bias against women. Sexism says that women are not as good as men.

There are other kinds of bias too.

Transgender people have a different gender than the one other people thought they should be when they were born. Transgender people deal with bias. Bias against transgender people says they are wrong about themselves.

Poor people and homeless people deal with bias. Classism is a word for this kind of bias. Classism says that poor and homeless people are bad or did something wrong to deserve being poor.

Another problem is that most algorithms aren't accessible to disabled people either. Some don't work for blind or deaf people. Some don't work for people with physical disabilities or intellectual disabilities.

Sometimes people don't even know that employers are using algorithms.

4. How do employers risk breaking the law?

The Americans with Disabilities Act (ADA) is a federal law. The ADA bans employers from discriminating against people with disabilities. This means that employers can't discriminate against disabled people when they make decisions about hiring.

If a company has more than 15 employees, they have to follow the ADA. All government offices also have to follow the ADA.

The ADA says that many kinds of disabilities exist. The ADA protects people with physical disabilities and mental disabilities. The ADA doesn't say you have to have a specific disability to be protected. The ADA protects people if their disabilities affect their life in a major way. The ADA includes disabilities that affect walking, seeing, hearing, thinking, learning, and communication.

The ADA bans two specific kinds of employment discrimination.

1. **Tests that aren't accessible to people with disabilities.** For example, people might have to look at a screen to take a test. Blind people can't take that test, so it isn't accessible.
2. **Using hiring criteria that screens out disabled people.** For example, the criteria might say that people can't have any gaps on their resume. People who have been in a psychiatric hospital for a long time wouldn't get hired. People recovering from COVID wouldn't get hired. Disabled people who have been out of work because they were discriminated against wouldn't get hired.

These kinds of criteria screen out disabled people who do badly on the test but could still do the job.

Employers have to follow the ADA, if they use an algorithm for hiring or not.

Advocates can ask employers if they are following the ADA. Advocates can also ask employers if their tools break the law.

- a. What does the law say about how employers can give hiring tests?
What happens if some people can't even use the test?

The ADA bans employers from using only one test for every person who applies if not everyone can use it.

Sometimes, people with disabilities can't use a specific kind of test or tool. This can be because of the test's format. It can also be because of what you have to do to use the test. If you can't use a test, an employer has to give you a different version or an accommodation.

Employers have to be able to make accommodations to their tests. This can mean changing something about a specific test. It can also mean giving a different test to a person with a disability.

Many algorithms for hiring can be inaccessible.

Here are some examples:

- One algorithm makes people look at pictures on a screen. They click "me" or "not me" based on whether they relate to the picture. The test then makes guesses about people's personalities. Since this test requires looking at pictures, it's inaccessible to blind people.



Screen capture of test that measures the Big Five traits against the Holland Interest models, November 24, 2020

- Another algorithm makes people play a basic video game. In the game, they look at red and green dots. People have to click the red dots. The game measures how much people focus and if they learn from mistakes. Blind people can't use it because it requires looking at a screen. People who can't click a mouse can't use it either.
- Another algorithm makes people record themselves on video answering questions. The algorithm watches their faces and eyes. It measures how enthusiastic people are and what kind of words they use. Blind people and autistic people who don't make eye contact can't use it.

Employers have to make accommodations for people with disabilities. Accommodations are changes so that disabled people have equal access and a fair chance. An accommodation can mean using a different version of the algorithm.

Sometimes, there isn't a different version of the algorithm though. If there isn't a different version of the algorithm, the employer has to use a different test. There are many different ways employers can test people who apply for jobs:

- Employers can do a regular, in-person interview.
- Employers can give questions in writing. Then people can write and send answers back.
- Employers can read test questions out loud.
- Employers can make sure people have interpreters or translators.

The law says that employers have to tell people that they can do a different test. The law also says that employers have to treat people equally no matter what test they do.

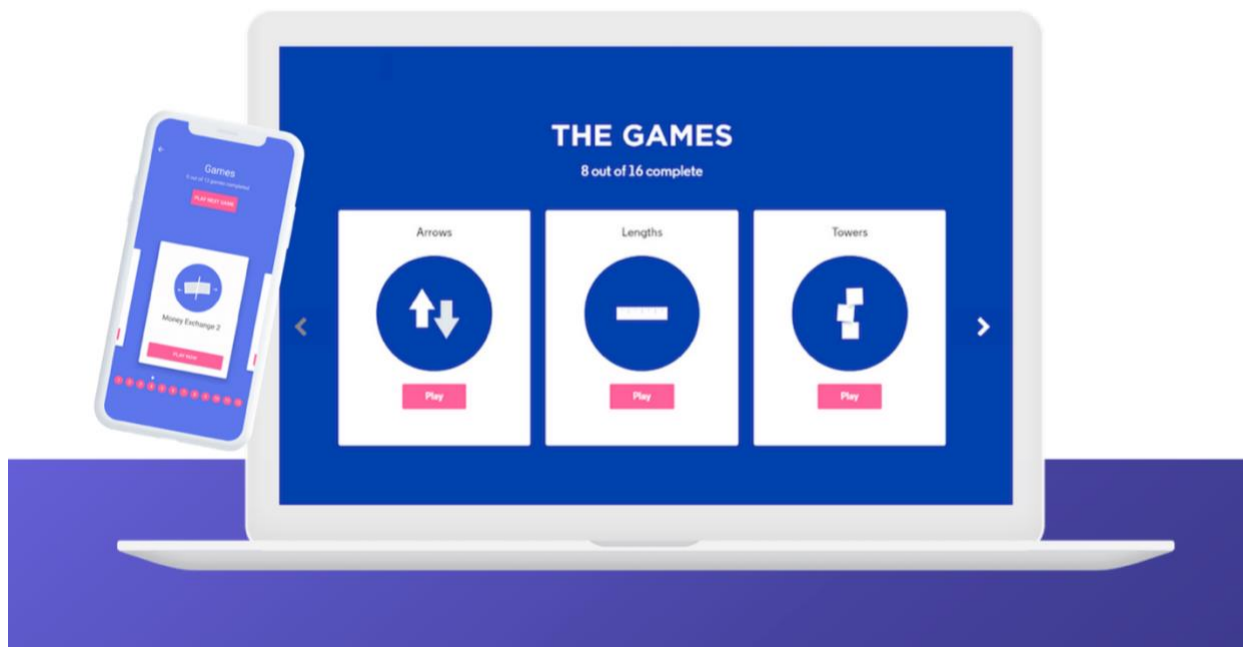
Companies that make algorithms usually don't make different versions of the algorithms.

Most companies usually don't even tell employers what the law says about accommodations.

Some companies do tell employers what the law says about accommodations. But they're often only thinking about one or two kinds of disabilities.

Employers need to learn what the law says about accommodations. Companies that make algorithms also have to learn what the law says about accommodations.

Employers also have to tell people in advance what kind of tests they're using. They have to explain how their tests or tools work. That way people have a fair chance to ask for accommodations.



Screen capture of gamified test options to measure cognitive and emotional traits, November 24, 2020

Employers also have to treat people fairly no matter how they take a test. Employers can't discriminate against people who ask for accommodations.

Employers also need to remember that it's hard to talk about disability. People with disabilities deal with a lot of bias. It's not always safe or comfortable to say when you have a disability. Disabled people might be worried about discrimination if they ask for accommodations. It would be better for employers to use tools that work for as many people as possible.

Employers could also give everyone a choice between the algorithm and a different test. Then they wouldn't know for sure who had a disability.

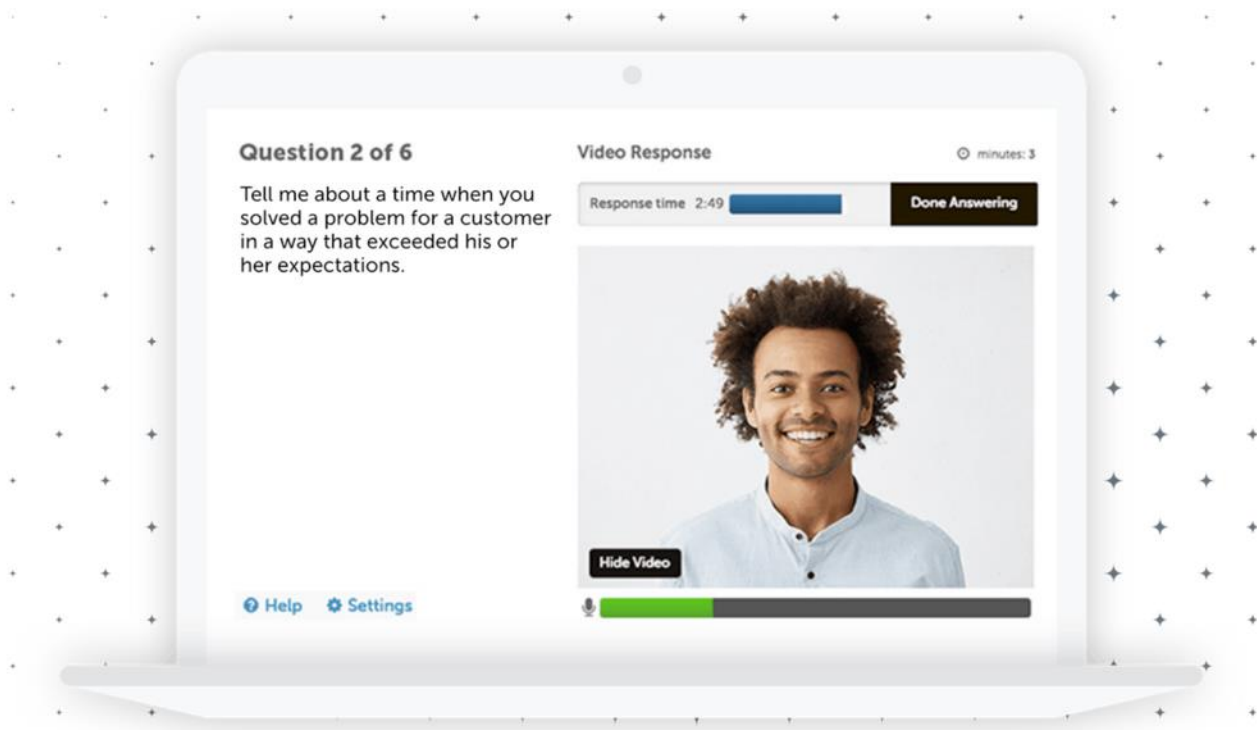
b. What does the law say about what employers can use hiring tests for? Can algorithms actually figure out if people can do a job?

The ADA also says that employers can only use hiring tests related to the job. That means that the test can only screen candidates for whether they can perform functions that are essential for the job. Employers also have to make accommodations on the tests for people who would use accommodations at work.

Here are some examples of tests that may be prejudiced against disabled people:

- **Resume mining:** A hiring test might look for what people who already work at a company have in common. It will figure out if those things are related to important abilities for the job. People with disabilities might not have had those experiences, but they might have other experiences that helped them develop the same abilities. The test only looks at whether the disabled person seems like current people at the company. It's not looking at the disabled person's ability to do the job. This could be illegal.
- **Figuring out emotions from pictures of faces:** A hiring test might ask you to look at pictures of faces and guess how those people are feeling. But you might not need to be able to do this type of thing for the actual job you're interviewing for. Autistic people might have a harder time figuring out emotions from those pictures. The hiring test

could decide that they won't be good at the job. But this is because they can't do something that they might not need to do for the job. This could also be illegal.



Screen capture of recorded interview that measures applicant "fit", November 24, 2020

- **Personality Tests:** A hiring test might ask people which pictures or words describe them. It uses people's answers to make guesses about their personalities. For example, it might look at how enthusiastic a person is. A person might get a low score because they have depression. But they might not need to be enthusiastic to do the job. Or they might show that they're enthusiastic in a different way. So the algorithm uses criteria that isn't related to doing a good job. Again, this hiring test could be illegal.
- **Games:** A hiring test might try to measure things like attention span and ability to remember numbers. These abilities might be related to a job. But people with disabilities might be able to do the job with accommodations. An accommodation for the game might be something that costs very little, like a calculator. Or the accommodation might be free, like having extra time to do the work. If you could do the job with accommodations, the hiring test needs to take that into account.

5. What's so bad about discrimination by algorithm?

Hiring discrimination is hard to prove. People don't always know for sure if employers are discriminating against them. Employers might think that their algorithms make fair decisions if the algorithms save them time and money. But they aren't right. Just because an algorithm saves time and money doesn't mean the algorithm doesn't discriminate.

People don't always know for sure when algorithms discriminate either. Algorithms can find hidden connections between information about people and how they do on a test. Those hidden connections can be related to information about disabilities.

There isn't yet a way to make sure algorithms are not ableist.

It can be hard to figure out if an algorithm discriminates against people with disabilities. Disabled people have very different experiences because there are so many types of disabilities. Even people with the same disabilities have different experiences. So it's impossible to know for sure if a tool discriminates against all disabled people or some disabled people.

6. What can people do next?

CDT and other advocacy groups created a list explaining how algorithms should make more fair decisions. Employers, governments, and job-seekers all have a part to play.

a. What can employers do?

- Check if your algorithm is unfair to disabled people. Have disabled people on your team to help design your tool. Make accommodations so more disabled people can use the tool.
- Make sure your algorithm only tries to measure if a person can do the things that the job requires. Make sure the algorithm doesn't reject people just because they have disabilities.
- Tell people applying to the job that you have an algorithm helping to decide who you hire. Explain what the algorithm looks for. Explain how the algorithm works. Tell people about the accommodations you give. If your algorithm rejects them, explain why.

- Keep checking your algorithm for mistakes. Don't rely just on numbers. Give people a way to share what was hard about the tool. Change the algorithm to work better for more disabled people.

b. What can people in government do?

- Use the government's powers to make sure employers' algorithms treat disabled people fairly. Ask employers how their algorithms make decisions.
- Explain the laws and rules that say what employers are supposed to do. Make new rules that say employers should only use algorithms that make fair decisions.
- Make sure the government also follows the laws and rules. If your decisions treat disabled people unfairly, the algorithms you build will also treat them unfairly.
- Let the public and employers know that employers can only use algorithms that treat people fairly.

c. What can disabled self-advocates and job-seekers do?

- Pay attention to the kind of tests you take when you apply for a job. Keep track of what parts of the test were hard to use. Ask for help or for a different kind of test.
- If you're rejected, ask the employer to explain why.
- "Legal aid" groups can tell you what your rights are. They can help you find out if you were rejected because of an algorithm. You can ask for help from a state's Protection & Advocacy office (like Disability Rights North Carolina). You can also ask for help from a general legal aid office (like Utah Legal Services).
- Make a complaint to a part of the government called the "Equal Employment Opportunity Commission," or the EEOC. Or take the employer to court.