

We live in a world of big data where computers look for patterns in vast collections of information in order to predict the future, and we depend on their accuracy.

Is it a good morning for jogging?

Will this become cancer?

What movie should I choose?

The best way to beat traffic.

Your computer can tell you.

Similar computer programs called predictive algorithms are mining big data to make predictions about crime and punishment, reinventing how our criminal legal system works.

How do these predictions actually work?

At the core of these programs is software, which like all computer programs, is built around an algorithm.

VIVIENNE MING: One way to think about algorithms is to think about the hiring process.

In fact, recruiters have been studied for a hundred years.

And it turns out many human recruiters have a standard algorithm when they're looking at a resume.

So they start with your name.

And then they look to see where you went to school.

And then, finally, they look at what your last job was.

If they don't see the pattern they're looking for, that's all the time you get.

And in a sense, that's exactly what artificial intelligence is doing as well.

In a very basic level, it's recognizing sets of patterns and using that to decide what the next step in its decision process should be.

What is commonly referred to as artificial intelligence or AI is a process called machine learning, where a computer algorithm will adjust on its own without human instructions in response to the patterns it finds in the data.

These powerful processes can analyze more data than any person can and find patterns never recognized before.

LATANYA SWEENEY: All of these different types of machine learning algorithms are all trying to help us figure out: Are there some patterns in this data?

It's up to us to then figure out: Are those legitimate patterns? Are they useful patterns?

Because the computer has no idea.

It didn't make a logical association.

It just made a correlation.