COMMENTARY

We use big data to sentence criminals. But can the algorithms really tell us what we need to know?

Jun 06, 2017

The algorithms in risk assessment tools commonly assign specific points to different factors. The points are totaled. The total is then often translated to a risk bin, such as low or high risk. Typically, more points means a higher risk of recidivism.

Say a score of 6 points out of 10 on a certain tool is considered "high risk." In the historical groups studied, perhaps 50 percent of people with a score of 6 points did reoffend.

Thus, one might be inclined to think that a new offender who also scores 6 points is at a 50 percent risk of reoffending. But that would be incorrect.

It may be the case that half of those with a score of 6 in the historical groups studied would later reoffend. However, the tool is unable to select which of the offenders with 6 points will reoffend and which will go on to lead productive lives.

The studies of factors associated with reoffending are not causation studies. They can tell only which factors are correlated with new crimes. Individuals retain some measure of free will to decide to break the law again, or not.

These issues may explain why risk tools often have significant false positive rates. The predictions made by the most popular risk tools for violence and sex offending have been shown to get it wrong for some groups over 50 percent of the time.

A ProPublica investigation found that COMPAS, the tool used in Loomis' case, is burdened by large error rates. For example, COMPAS failed to predict reoffending in one study at a 37 percent rate. The company that makes COMPAS has disputed the study's methodology.

Deciding on Loomis

Unfortunately, in criminal justice, misinterpretations of risk assessment tools are pervasive.

Based on my analysis, I believe these tools cannot, scientifically or practically, provide individualized assessments. This is true no matter how complicated the underlying algorithms.

COMPAS documents state the results should not be used for sentencing decisions. Instead, it was designed to assist in supervisory decisions concerning offender needs. Other tool developers tend to indicate that their tool predicts risk at a rate better than chance.

There are also a host of thorny issues with risk assessment tools incorporating, either directly or indirectly, sociodemographic variables, such as gender, race and social class. Law professor Anupam Chander has named it the problem of the "racist algorithm."

Big data may have its allure. But, data-driven tools cannot make the individual predictions that sentencing decisions require. The Supreme Court might helpfully opine on these legal and scientific issues by deciding to hear the Loomis case.

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READER COMMENTS

Thu, Jun 8, 2017 | Rick Meggison Philadelphia

> While these "anti-predictive model" claims assert that there are less than perfect reliability, that is true of any tool used for assessment of residivisim. Our tool assessment should focus on the measure of efficasy "above random chance". Once determined, any improvement over random chance makes the tool certified as being a useful component in the decision making process.

Wed, Jun 7, 2017 | Preston GA

> I have not studied the algorithms involved with these criminal statistical tools, however, I would like to point out that big data combined with artificial intelligence IS coming to us in a huge way and I don't see how this problem will be ignored by AI. If either Google or IBM decide to market to this sector, you can bet they will have "done their homework" with respect to the G2I issues and incorporated every conceivable variable into their respective algorithms. A negative ruling from the courts may delay big data decision making in sentencing cases, but the tide has turned and this technology WILL be coming to a court near you. Why? Because precrime analysis works, when done properly. https://deepmind.com/ http://www.predpol.com/how-predpol-works/

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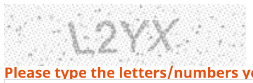

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