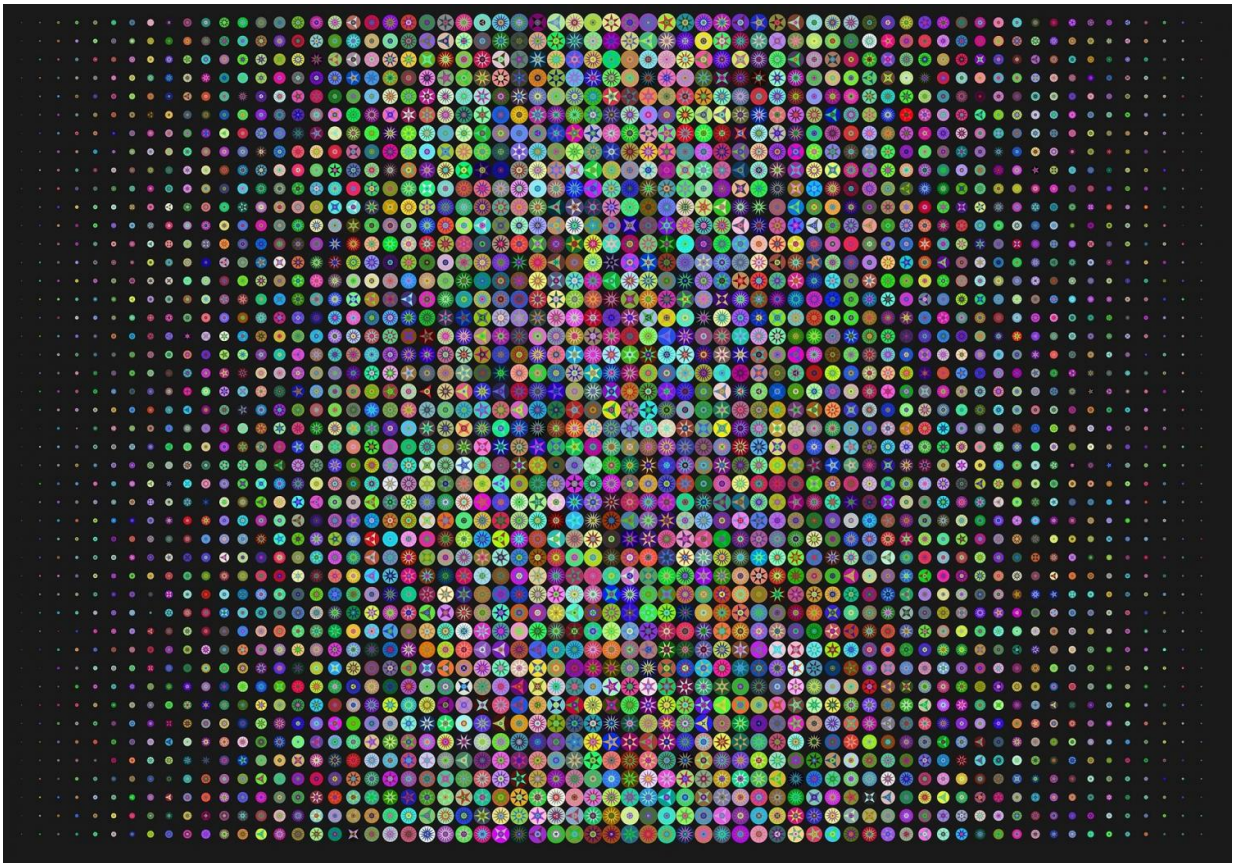


Scholar analyzes responses to algorithms in journalism, criminal justice

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Advanced algorithms shape and guide our every step in the online world. They are also increasingly penetrating everyday life as more sectors of society, from finance and health care to human resources and criminal

justice, incorporate them into daily decision-making.

A polarizing debate is ongoing in response to these changes and little has been done to determine and track the effects of algorithmic tools in various professions, said Angèle Christin, assistant professor of communication at Stanford.

Proponents of algorithms say computer programs can fix the inefficiency and bias of humans. Critics point to the opacity of algorithms and argue that they are not necessarily neutral.

"Technology changes things, but perhaps not always as much as we think," Christin said. "Social context matters a lot in shaping the actual effects of the technological tools. ... So, it's important to understand that connection between humans and machines."

In a research paper recently published in *Big Data & Society*, Christin found a gap between the intended and actual uses of algorithms in the fields of web journalism and [criminal justice](#). In addition, workers in both areas developed similar strategies to minimize the impact of algorithms on their daily work, she said.

"Whereas managers and executives frequently emphasize how 'data-driven,' modern, and rational their organization is, the actual uses of algorithmic techniques in web newsrooms and criminal courts reveal a more complicated picture," Christin wrote in the paper.

Algorithmic denial

Christin observed five newsrooms, three in Paris and two in New York, between 2011 and 2015. Since 2015, she has also been gathering information on four criminal courts, three in the United States and one in France. She interviewed reporters and editors as well as judges,

defense attorneys, probation officers and others.

In spite of the many differences between the fields of web journalism and criminal justice, Christin found surprising similarities between newsrooms and courtrooms during her fieldwork.

In web journalism, real-time analytics software programs, such as Chartbeat, are used to measure the number of visitors to each article, the average time spent by readers on each piece and the number of likes and shares it gets on [social media platforms](#).

These programs purport to revolutionize journalists' content strategies by providing this detailed data about their audience. Editorial managers order the programs installed on every employee's computer and encourage staff writers to track traffic on their stories.

But in some of the newsrooms she studied, staff writers and employees did not use these programs and some actively avoided them on principle, Christin said.

"I have access to something that shows all those stats," one writer told Christin. "I don't go there and obsessively look at the stats. I find it kind of stressful and I try not to get too wrapped up in that."

In criminal justice, a similar discrepancy exists. A lot of courts now use various predictive risk-assessment tools that rely on defendants' criminal history, socio-demographics and other variables to estimate an offender's risk of reoffending or failure to appear in court when on bail.

These algorithmic programs were often introduced as a result of a growing awareness that racial bias exists at every step of the criminal justice process in the United States, Christin said. The supporters of these tools believe they can reduce overcrowding in jails by reliably

identifying low-risk offenders who could be released.

But many judges and prosecutors do not use those analytics, Christin said. Because some of these tools are created by for-profit companies, many employees in criminal justice question their reliability.

"I'd prefer to look at actual behaviors," one former prosecutor told Christin. "With these tools the output is only as good as the input. And the input is controversial."

Algorithms in perspective

The question of algorithms' reliability hits at the core of today's debate about them. Algorithms are inherently opaque; the code they're written in is often proprietary and difficult to understand.

Some experts propose algorithmic audits that would test the system periodically. Others say a governmental agency should be created with some oversight power, Christin said.

These solutions may address some of the issues relating to algorithmic opacity, but not all, she said.

"The problem of transparency is a real one, and I think there is no clear way to make algorithms completely transparent for now," Christin said.

But further qualitative research can help people understand how algorithms fit in the social system and how they can make sense of them, Christin said. In addition to conducting research on the uses and practices associated with algorithmic systems, humanists and social science scholars should encourage those who make algorithms to critically analyze them.

"People who design these tools do not always follow closely how they are being used in specific organizations," Christin said. "Sometimes people use technology in ways you want them, but sometimes they use it differently."

As part of that effort, Christin, who joined Stanford last year, taught a new class, The Politics of Algorithms, in spring quarter.

"It was one of the most rewarding things to me – to be able to talk to the students who often design algorithms and who will be working in Silicon Valley, and discuss the potential pitfalls and how we can address them," Christin said. "I learned just as much from them as they did from me."

More information: Angèle Christin. Algorithms in practice: Comparing web journalism and criminal justice, *Big Data & Society* (2017). [DOI: 10.1177/2053951717718855](https://doi.org/10.1177/2053951717718855)

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