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David Freeman Engstrom

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Stanford Law School

Artificial intelligence is helping to run the federal government and Engstrom wants to explain how.

The Stanford professor is co-leading a research team along with his Stanford colleague Dan Ho that is advising the Administrative Conference of the United States on the use of artificial intelligence and will publish a report of the team's research and findings this summer.

One innovative example Engstrom's team will discuss is the Environmental Protection Agency's potential use of a tool that analyzes Google satellite imagery to monitor water pollution near animal feeding operations.

"As my Stanford colleague Dan Ho has shown, using satellite imagery a machine learning tool can make a highly accurate prediction as to which facilities are concentrated animal feeding operations and so may pose heightened environmental risks," he said.

Other agencies to be included in the report are the Internal Revenue Service.

Engstrom said the overall goal is to promote transparency and help build a blueprint for modernizing government.

"The report will help agency officials who are thinking about developing these tools to know what kinds of inter-agency relationships they should form," he explained. "Those officials may want to know how to form collaborations and gain a sense of what tools are being developed that are possible and could be used at their agency."

But Engstrom said the report will be a blend of promise and peril because artificial intelligence can raise concerns that the courts will need to address in the next five to 10 years.

"So when an agency like the SEC uses a tool to decide which regulatory targets to go after and where to concentrate their scarce enforcement resources, they're going to make mistakes," Engstrom said. "And the question will be: To what extent should these algorithmic enforcement tools be subject to the various legal and political accountability mechanisms built into administrative law?"

Another example would be using artificial intelligence in an adjudication setting to help relieve back-logged courts or other agencies.

While the algorithms might be designed to show no bias and be consistent, that could be a drawback.

"Hopefully, these tools can help adjudicatory agencies arrive at more efficient and more equitable decisions, but there's always the concern as we move toward more automated decision making that you will actually get something that's less equitable, less sensitive to context, or biased," he said.

Engstrom, an associate dean at Stanford Law School, is also heading the school's new digital initiative, which will aim to lay out how to conduct research at the intersection of law and technology and how to educate digitallyfluent lawyers.

"These will be specialized classes that bring together students from the law school and from the engineering quad to work collaboratively on projects," he said. " ... The lawyers of the future will need to be able to work alongside technologists."

-- Arin Mikailian