

# Impact Assessment of Human-Algorithm Feedback Loops – Version 20220110

January 10, 2022

## ABSTRACT

How can we understand and manage the impact of adaptive algorithms that respond to people's behavior and also influence what people do? From predictive policing to video recommendations, these algorithms shape outcomes including criminal justice, economic inequality, public health, and social change. *Impact Assessment of Human-Algorithm Feedback Loops* provides an introduction to the challenges of governing adaptive algorithms, whose interactions with human behavior cannot yet be reliably predicted or assessed. This article is a practical tool for regulators, advocates, journalists, scientists, and engineers who are working to assess the impact of these algorithms for social justice.

Authors J. Nathan Matias and Lucas Wright start by describing areas of social justice impacted by adaptive algorithms. They explain and describe human-algorithm feedback, name common feedback patterns, and link those patterns to long-standing injustices and opportunities for social change. They describe fundamental advances that are still needed for effective impact assessment, including new forms of knowledge, new interventions for change, and governance that involves affected communities. They conclude with high-level recommendations for anyone working to assess the impact of human-algorithm feedback.

This field review is forthcoming.