



Agency Use of Artificial Intelligence

Ad Hoc Committee on Agency Use of Artificial Intelligence

Draft Statement for Ad Hoc Committee | November 30, 2020

1 Artificial intelligence (AI) techniques are changing how government agencies do their
2 work.¹ Advances in AI hold out the promise of lowering the cost of completing government tasks
3 and improving the quality, consistency, and predictability of agency decisions. But enhanced
4 agency use of AI also raises concerns about the discretion being vested in AI systems and the
5 extent to which those systems are exercising authority that ought to be handled by human
6 officials.

7 Consistent with its statutory mission to promote efficiency, participation, and fairness in
8 administrative processes,² the Administrative Conference offers this Statement to identify issues
9 of which agencies should be mindful when adopting or modifying AI systems. The Statement
10 draws on a pair of reports commissioned by the Conference,³ as well as the input of AI experts
11 from government, academia, and the private sector.

¹ The National Institute of Standards and Technology has offered the following basic definition of AI:

AI technologies and systems are considered to comprise software [or] hardware that can learn to solve complex problems, make predictions or undertake tasks that require human-like sensing (such as vision, speech, and touch), perception, cognition, planning, learning, communications, or physical action. Examples are wide-ranging and expanding rapidly. They include, but are not limited to, AI assistants, computer vision systems, biomedical research, unmanned vehicle systems, advanced game-playing software, and facial recognition systems as well as application of AI in both Information Technology (IT) and Operational Technology (OT).

NAT'L INST. OF STANDARDS & TECH., U.S. LEADERSHIP IN AI: A PLAN FOR FEDERAL ENGAGEMENT IN DEVELOPING TECHNICAL STANDARDS AND RELATED TOOLS 7–8 (Aug. 9, 2019). The Administrative Conference adopts that definition for purposes of this statement.

² See 5 U.S.C. § 591.

³ DAVID FREEMAN ENGSTROM, DANIEL E. HO, CATHERINE M. SHARKEY, & MARIANO-FLORENTINO CUÉLLAR, GOVERNMENT BY ALGORITHM: ARTIFICIAL INTELLIGENCE IN FEDERAL ADMINISTRATIVE AGENCIES (2020),



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12 With this statement, we are recommending agencies focus on the following issues when
13 implementing AI: 1) Transparency; 2) Harmful Bias; 3) Technical Capacity; 4) Obtaining AI
14 systems; 5) Data; 6) Privacy; 7) Security; 8) Decisional authority; and 9) Oversight. The issues
15 highlighted in this Statement are relevant to an array of agency personnel. To minimize the risk
16 of unforeseen problems involving an AI system, the agency should, throughout the system’s
17 lifespan, solicit input about the system from an array of offices—including, at a minimum, the
18 legal, policy, financial, human resources, and technology offices.

19 *1. Transparency*

20 Agencies’ efforts to ensure transparency in connection with their AI systems can serve
21 many valuable goals. When agencies set up processes to ensure transparency in their AI systems,
22 they should publicly identify the processes’ goals and the rationales behind them. For example,
23 an agency might prioritize transparency in the service of legitimizing its AI systems, facilitating
24 internal or external review of its AI-based decision making, or coordinating its activities.
25 Different AI systems are likely to satisfy some transparency goals more than others. Where
26 possible, agencies should use metrics to measure the performance of their AI-transparency
27 processes.

28 In setting transparency goals, agencies should consider to whom they should be
29 transparent. For instance, depending on the nature of its operations, an agency might prioritize
30 transparency to the public, courts, Congress, or its own officials.

31 The appropriate level or nature of transparency and interpretability in an agency’s AI
32 systems will also depend on context. In some contexts, such as adjudication, reason-giving
33 requirements may call for a high degree of transparency and interpretability from the agency
34 regarding how an AI system functions. In other contexts, such as enforcement, an agency’s
35 legitimate interests in preventing gaming or adversarial learning by regulated parties could

<https://www.acus.gov/sites/default/files/documents/Government%20by%20Algorithm.pdf>; Cary Coglianese, *A Framework for Governmental Use of Machine Learning* (Oct. 2020), <https://www.acus.gov/sites/default/files/documents/Coglianese%20Report%20-%20A%20Framework%20for%20Governmental%20Use%20of%20Machine%20Learning.pdf> (draft report for Administrative Conference of the United States).



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36 militate against providing too much information (or specific types of information) to the public
37 about the AI system's processes. In each context, agencies should consider whether particular
38 laws or policies governing disclosure of information apply.

39 In selecting and using AI techniques, agencies should be cognizant of the degree to which
40 a particular AI system can be made transparent to appropriate people and entities, including the
41 general public. There may exist tradeoffs between explainability and accuracy in AI systems, so
42 that transparency and interpretability might sometimes weigh in favor of choosing simpler AI
43 models. The appropriate balance between explainability and accuracy will depend on the
44 agency's circumstances and priorities.

45 The proprietary nature of some AI systems may also affect the extent to which they can
46 be made transparent. When an agency's AI system relies on proprietary technologies or
47 algorithms the agency does not own, the agency and the public may have only limited access to
48 the information needed to understand the AI technique. Agencies should strive to anticipate such
49 circumstances and address them appropriately, such as by working with outside providers to
50 ensure they will be able to share sufficient information about such a system.

51 *2. Harmful Bias*

52 At their best, AI systems can help agencies identify and reduce the impact of unwanted
53 human biases.⁴ Yet they can also unintentionally create or exacerbate those biases by encoding
54 and deploying them at scale. In deciding whether and how to deploy an AI system, ~~therefore,~~
55 agencies should carefully evaluate the biases that might result from the use of the AI system as
56 well as the biases that might result from alternative systems that rely on human actors (such as an
57 incumbent system that the AI system would augment or replace). Because different types of bias

⁴ The term *bias* has a technical meaning in the machine learning literature related to model characteristics. Under some circumstances, increasing bias (roughly the error of the average prediction) can improve system performance, if it reduces the risk of overfitting. Here, the Administrative Conference uses the term more generally to refer to common or systematic errors in decision making, especially those implicating normative concerns related to fairness and equal treatment.



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58 pose different types of harms, the outcome of the evaluation will depend on the agency's unique
59 circumstances and priorities and the consequences posed by those harms in that context.

60 AI systems can be biased because of their reliance on data reflecting historical human
61 biases or because of their designs. Biases in AI systems can increase over time through
62 feedback, ~~which~~ This can occur if the use of a biased AI system leads to systematic errors in
63 categorizations, which are then reflected in the data set or data environment the system uses to
64 make future predictions. Agencies should be mindful of the interdependence of the models,
65 metrics, and data that underpin AI systems.

66 Identifying biases in AI systems can pose challenges, as when the bias affects a particular
67 population but information about ~~which individuals are~~ those in that population is not directly
68 available. To identify and mitigate such biases, agencies should, to the extent practical, consider
69 whether other data or methods are available.

70 Data science techniques for identifying and mitigating biases in AI systems are
71 developing. Agencies should stay up to date on developments in the field of AI, particularly on
72 algorithmic fairness; establish processes to ensure that people with diverse perspectives are able
73 to inspect AI systems and their decisions for indications of harmful bias; test AI systems in
74 environments resembling the ones in which they will be used; and make use of internal and
75 external processes for evaluating the risks of bias in AI systems.

76 *3. Technical Capacity*

77 AI systems can help agencies conserve resources, but they can also require substantial
78 investments of human and financial capital. Agencies should carefully evaluate the short- and
79 long-term costs and benefits of an AI system before committing significant resources to it. Each
80 agency should also ensure it has access to the technical expertise required to make informed
81 decisions about the type of AI systems it requires, how to integrate those systems into its
82 operations, and how to oversee, maintain, and update those systems.

83 Given the data science field's ongoing and rapid development, agencies should consider
84 cultivating an AI-ready workforce, including through recruitment and training efforts that



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85 emphasize AI skills. When agency personnel lack the skills to develop, procure, or maintain an
86 AI system that meets the agency's needs, the agency should consider other means of expanding
87 its technical expertise, including by relying on tools such as the Intergovernmental Personnel
88 Act,⁵ prize competitions, or cooperative research and development agreements with private
89 institutions or universities.

90 *4. Obtaining AI Systems*

91 Decisions about whether ~~or how~~ to obtain an AI system can involve important trade-offs.
92 Buying an AI system from an external source might allow the agency to acquire a more
93 sophisticated tool than it could design on its own, access that tool sooner, and save some of the
94 up-front costs associated with developing the technical capacity needed to design an AI system.
95 Creating an AI tool within the agency, by contrast, might yield a tool that is better tailored to the
96 agency's particular tasks and policy goals. Creating an AI system within the agency can also
97 facilitate development of internal technical capability, which can yield benefits over the lifetime
98 of the AI system and in other technological tasks the agency may confront.

99 Certain government offices are available to help agencies with decisions and actions
100 related to technology.⁶ Agencies should make appropriate use of these resources when obtaining
101 an AI system.

102 *5. Data*

103 AI systems require data, often in vast quantities. An agency should consider whether it
104 has, or can obtain, data that appropriately reflects conditions similar to the ones the agency's AI
105 systems will address in practice; whether the agency has the resources to render the data into a

⁵ 5 U.S.C. §§ 3371–76.

⁶ Within the General Services Administration, for example, the office called 18F routinely partners with government agencies to help them build and buy technologies. Similarly, the United States Digital Service has a staff of technologists whose job is to help agencies build better technological tools. While the two entities have different approaches—18F acts more like an information intermediary and the Digital Service serves as an alternative source for information technology contracts—both could aid agencies with obtaining, developing, and using different AI techniques.



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106 format that can be used by the agency’s AI systems; and how the agency will maintain the data
107 and link it to the agency’s AI systems without compromising security or privacy.

108 *6. Privacy*

109 Agencies have a responsibility to protect privacy with respect to personally identifiable
110 information in AI systems no less than in other aspects of agency operation. In a narrow sense,
111 this responsibility demands that agencies comply with requirements related to transparency, due
112 process, accountability, and information quality and integrity established by the Privacy Act of
113 1974, Section 208 of the E-Government Act of 2002, and other laws and policies.⁷ More broadly,
114 agencies should recognize and appropriately manage privacy risks posed by an AI system.
115 Agencies should consider privacy risks throughout the entire development life cycle of an AI
116 system and assess those risks, as well as associated controls, on an ongoing basis. The Office of
117 Management and Budget and the National Institute of Standards and Technology have developed
118 risk management frameworks that agencies may find useful in implementing AI systems.⁸

119 *7. Security*

120 Agencies should consider the possibility that AI systems might be manipulated, fooled,
121 evaded, and misled, including through manipulation of training data and exploitation of model
122 sensitivities. An agency must ensure not only that its data is secure, but also that its AI systems
123 are trained on that data in a secure manner, make forecasts based on that data in a secure manner,
124 and otherwise operate in a secure manner. Agencies should continuously consider and evaluate
125 the safety and security of AI systems, including resilience to vulnerabilities, manipulation, and
126 other malicious exploitation.

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⁷ See, e.g. 5 U.S.C. § 552a(e), (g), & (p); 44 U.S.C. § 3501 note.

⁸ See, e.g., Nat’l Inst. of Standards & Tech., *NIST Privacy Framework: A Tool for Improving Privacy Through Enterprise Risk Management, Version 1.0* (Jan. 16, 2020); Nat’l Inst. of Standards & Tech. Special Publication SP-800-37 revision 2, *Risk Management Framework for Information Systems and Organizations: A System Lifecycle Approach for Security and Privacy* (Dec. 2018); Office of Mgmt. & Budget, Circular A-130, *Managing Information as a Strategic Resource* (July 28, 2016).



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8. *Decisional Authority*

129 Agencies should be mindful that most AI systems will involve human beings in a range
130 of capacities—as operators, customers, overseers, policymakers, or interested members of the
131 public. Accordingly, any decision to deploy an AI system should account for the human
132 tendencies and preferences of humans in those roles.

133 Human factors may sometimes undercut the value of using AI systems to make certain
134 determinations. There is a risk, for example, that human operators will devolve too much
135 responsibility to AI systems and fail to detect cases where the AI systems yield inaccurate or
136 unreliable determinations. That risk may be tolerable in some settings—such as when the AI
137 system has recently been shown to perform significantly better than alternatives—but intolerable
138 in others.

139 Similarly, if agency personnel come to rely reflexively on algorithmic results in
140 exercising discretionary powers, use of an AI system could have the practical effect of curbing
141 the exercise of agency discretion or shifting it from the person who is supposed to be exercising
142 it to the system’s designer. Agencies should beware of such potential shifts of practical authority
143 and take steps to ensure that appropriate officials have the knowledge and power to be
144 accountable for decisions made or aided by AI techniques.

145 Finally, there may be some circumstances where, for reasons wholly apart from
146 decisional accuracy, an agency may wish to have a decision be made by a human being, even if
147 the law does not require it. In some contexts, accuracy and fairness are not the only relevant
148 values at stake, and an AI system may be difficult to sustain if human beings perceive it as
149 unfair, inhumane, or otherwise unsatisfactory.⁹

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⁹ Cf. Admin. Conf. of the U.S., Recommendation 2018-3, *Electronic Case Management in Federal Administrative Adjudication*, 83 Fed. Reg. 30,686 (June 29, 2018) (suggesting, in the context of case management systems, that agencies consider implementing electronic systems only when they conclude that doing so would lead to benefits without impairing either the objective “fairness” of the proceedings or the subjective “satisfaction” of those participating in those proceedings).



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9. Oversight

152 It is essential that agencies' AI systems be subject to appropriate and regular oversight
153 throughout their lifespans. There are two general categories of oversight: external and internal.
154 An agency's mechanisms of internal oversight will be shaped by the demands of external
155 oversight. And the more effective an agency's internal oversight mechanisms, the better it is
156 ~~likely~~ to fare with external oversight. An agency should be cognizant of both forms of oversight
157 in making decisions about its AI systems.

158 External oversight of agency use of AI systems can come from a variety of government
159 sources, including inspectors general, the Government Accountability Office, and Congress.
160 Courts can also play an important role in external oversight of agency uses of AI systems.
161 Agency uses of AI systems might lead to litigation in a number of circumstances. Those affected
162 by an agency's use of an AI system might, for example, allege that use of the system violates
163 their right to procedural due process.¹⁰ Or they might allege that the AI system's determination
164 violated the Administrative Procedure Act (APA) because it was arbitrary and capricious.¹¹
165 When an AI system narrows the discretion of agency personnel, or fixes or alters the legal rights
166 and obligations of people subject to the agency's action, affected people or entities might also
167 sue on the ground that the AI system is a legislative rule adopted in violation of the APA's
168 requirement that legislative rules go through the notice-and-comment process.¹² Agencies should
169 consider these different forms of potential external oversight as they are making and
170 documenting decisions ~~and the underlying processes for these about~~ AI systems ~~and as they are~~
171 ~~developing processes for making those decisions.~~

172 Agencies should also develop their own, internal evaluation and oversight mechanisms
173 for their uses of AI systems. Successful internal oversight requires advance and ongoing

¹⁰ Courts would analyze such challenges under the three-part balancing framework from *Mathews v. Eldridge*, 424 U.S. 319, 335 (1976).

¹¹ See 5 U.S.C. § 706(2)(A). Courts would review such challenges under the standard set forth in *Motor Vehicle Manufacturers Ass'n v. State Farm Mutual Automobile Insurance Co.*, 463 U.S. 29, 43 (1983).

¹² See 5 U.S.C. § 553(b)–(c).



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174 planning and consultation with the various offices in an agency that will be affected by the
175 agency's use of an AI system, including its legal, policy, financial, human resources, and
176 technology offices. An agency's oversight plan should address how the agency will pay for its
177 oversight mechanisms and how it will respond to what it learns from its oversight.

178 Agencies should establish a protocol for regularly evaluating AI systems throughout the
179 systems' lifespans. That is particularly true if a system or the circumstances in which it is
180 deployed are liable to change over time. In these instances, ,since, in that case, review and
181 explanation of the system's functioning at one stage of development or use may become outdated
182 due to changes in the system's underlying models. To enable that type of oversight, agencies
183 should monitor and keep track of the data being used by their AI systems, as well as how the
184 systems use that data. Agencies may also wish to secure input from members of the public or
185 private evaluators to improve the likelihood that they will identify defects in their AI systems.

186 To make their oversight systems more effective, agencies should clearly define goals for
187 their AI systems. The relevant question for oversight purposes will often be whether the AI
188 system outperforms alternatives, which may require the agency to benchmark the system against
189 the status quo or some hypothetical state of affairs.

190 Finally, AI systems can affect how agency staff do their jobs, particularly as agency
191 personnel grow to trust and rely on the systems. In addition to evaluating and overseeing their AI
192 systems, agencies should pay close attention to how agency personnel interact with those
193 systems.

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195 In summary, we offer this statement to highlight the various issues agencies should
196 evaluate when using, investing in, developing, or obtaining AI.