Harald Schneider
Chief Data and Analytics Officer

The Honorable Dr. Laurie E. Locascio
Director
National Institute for Standards and Technology
100 Bureau Drive
Gaithersburg, MD 20899

Submitted via Regulations.gov

February 2, 2024

Re: Request for Information (RFI) Related to NIST's Assignments Under Sections 4.1, 4.5 and 11 of the Executive Order Concerning Artificial Intelligence (Sections 4.1, 4.5, and 11), Docket No. NIST-2023-0009

Dear Director Locascio,

Equifax appreciates the opportunity to comment on the National Institute of Standards and Technology (NIST) Request for Information on Artificial Intelligence (AI) as directed under the Executive Order on Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence.[1] We believe NIST's inclusion of industry leaders and stakeholders is critical to ensuring there are appropriate standards developed and adopted in this rapidly emerging space. Equifax has been driving responsible AI innovation for nearly a decade with a commitment to ensuring transparency and explainability in the use of AI. This investment is evidenced by our more than 75 granted patents that leverage AI, which put us in a unique position to provide input as NIST continues to develop and refine standards and techniques to maximize the benefits of AI while minimizing the risks to consumers.

We believe that the benefits of AI must be balanced by the adoption of an AI framework built on guiding principles, including transparency, explainability, and fairness, applied to the development and use of AI broadly. We believe that the NIST AI Risk Management Framework captures those objectives and urge regulators to consider the relevance of, and impact of, any standards on the specific needs of different industries, use cases, and specific types of AI (for example, using machine learning as compared to generative AI built using foundational large language learning models). Equifax's comment focuses on our experience in the credit reporting industry and leveraging an industry-specific framework that has allowed for the development and use of AI not only for operational efficiencies and improvements, but also in the creation and adoption of transparent, explainable AI models that improve predictability.

Advance Responsible Technical Standards for AI Development: Best Practices for Data Analysis, Model Training, and Explainability

Credit scoring models used as part of a lending decision to deny an applicant credit, largely on the terms requested, must be able to inform the consumer what attributes contributed to the decline. In practice, this means the model must be fully explainable to everyone involved in its use: the modeler, the risk manager and lender using it, the regulators who examine it, and most importantly, the consumer impacted by it.

Credit scoring systems, including systems that leverage AI, must meet certain regulatory requirements to qualify as "an empirically derived, demonstrably and statistically sound, credit scoring system."[2] These requirements include the ability to return *adverse action codes*, or reason codes, that point a consumer to information on his or her credit report that led to a denial of credit. In order for this to occur, one must be able to explain the model in

[1] Executive Order No. 14110, 88 Fed. Reg. 75191 (Oct. 30, 2023).
[2] 12 C.F.R. § 1002.2(p)(1).

detail. That means the impact of every attribute on the final score must be able to be accounted for in the model. The explainability requirement has been in place for many years and has been reiterated by financial regulators specifically with regard to AI credit scoring systems.[3]

The systematic way in which Regulation B addresses credit scoring models, may be a paradigm that can be applied more generally to other AI models. Under Regulation B, AI credit scoring systems must be:

i. Based on the data that are derived from an empirical comparison of sample groups or the population of creditworthy and non-creditworthy applicants who applied for credit within a reasonable period of time;
ii. Developed with the purpose of evaluating the creditworthiness of applicants with respect to the legitimate business interests of the creditor utilizing the system;
iii. Developed and validated using accepted statistical principles and methodology; and
iv. Periodically revalidated by the use of appropriate statistical principles and methodology and adjusted as necessary to maintain predictive ability.[4]

Every Equifax AI credit scoring system model meets these requirements because we build explainability into our models by default.

Unlike Equifax AI credit scoring system models, many generalized AI models may be unable to solve specific problems or answer specific questions because they are built using vast amounts of input data without context or constraints that allow the model to "learn" patterns in the data. The models then generate responses to queries based on those learned patterns, which may not be factually based. Some generative AI models have demonstrated a tendency to "hallucinate" or trend off on tangents that do not answer the question posed or provide false information to the user. Examples abound.[5] Having a robust, systematic framework similar to that set forth for credit scoring systems in Regulation B may help build confidence that a generative AI model has not hallucinated, or otherwise created unintended consequences for consumers, particularly in industries and use cases where such confidence would be desirable.

Regulation B imposes a requirement for deep knowledge of the specific subject to be incorporated into the model. AI credit scoring systems therefore differ from generative AI models because the data, the model, the outputs, and the explanations are all specifically tuned to the precise problem for which these AI credit scoring systems are developed. Other areas of inquiry are realizing similar results.[6] We therefore believe it is important that depth of knowledge in a specific subject be considered in any AI regulatory framework.

Fairness

An AI regulatory framework must include protections to support fairness. Equifax is committed to using AI in a responsible and trustworthy manner and maintains the core principle that data and solutions we create must be free from bias and not create unintended consequences for consumers. For example, AI credit scoring systems are required to omit certain protected class information in evaluating creditworthiness. In Equifax's AI credit scoring systems, any two people – one a member of a protected class and another not – who have identical data on their respective credit reports evaluated by our AI models *will receive the exact same credit score*. This fairness test is known as *fairness through unawareness*. That is, the model evaluates every person identically without regard to or knowledge of one's membership in any protected class. This test was empirically evaluated in a credit scoring system by economists from the Federal Reserve Board and discussed in detail in the *Report to Congress on Credit Scoring and Its Effects on the Availability and Affordability of Credit*.[7] Using the requirements listed for Regulation B, and a data set containing known protected class status for race, ethnicity, gender, and age,

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[3] Regulation B details the explainability requirements for every credit scoring system. 12 C.F.R. § 1002.9(a)(2). https://www.consumerfinance.gov/rules-policy/regulations/1002/9/#a-1.

[4] 12 C.F.R. § 1002.2(p)(1). https://www.consumerfinance.gov/rules-policy/regulations/1002/2/#p-1.

[5] *See, e.g.,* https://www.ibm.com/topics/ai-hallucinations.

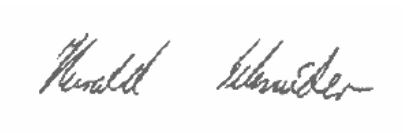
[6] Shiona McCallum, "New Material Found by AI Could Reduce Lithium Use in Batteries, BBC.com, 9 January 2024. https://www.bbc.com/news/technology-67912033, and "China's AI Robotic Chemist Synthesizes Catalysts for Oxygen Production on Mars", *ChinaDaily.com.cn*, 14 November 2023. https://global.chinadaily.com.cn/a/202311/14/WS6553257ba31090682a5ee18a.html

[7] Board of Governors of the Federal Reserve System. (2007) *Report to Congress on Credit Scoring and Its Effects on the Availability and Affordability of Credit. https://www.federalreserve.gov/boarddocs/rptcongress/creditscore/overview.htm.*

extracted from self-reported application data, the authors of *The Report* found *no disparate impact* in their credit scoring system. This provides a strong basis in evidence, that using the appropriate data for modeling and testing is appropriate.

We appreciate the opportunity to comment and your thoughtful consideration of the issues raised in this letter. We applaud NIST's efforts to standardize the implementation of AI across facets of the technology landscape, and your work to ensure fairness and transparency within machine learning algorithms. If this comment raises any further questions, please contact harald.schneider@equifax.com or michael.mcburnett1@equifax.com.

Sincerely,



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