



CO Senate Bill 24-205 Comments

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05/04/2024

Subject: Comments and Feedback on Colorado Bill 24-205 L005

Hi, my name is Logan Cerkovnik, founder and CEO of Thumper AI, a local generative AI company. Today, I am in an “amend” position because the bill in its current form no longer impacts our company directly.

First I would like to thank the Bill Sponsor Leader Rodriguez for amending this bill since the first time I testified to take into consideration the concerns of Open Source AI developers and generative AI startups in non-high risk areas to amend and narrow the scope of this bill. Due to those amendments, most generative AI startups in non-high risk areas would no longer be negatively impacted by this bill including Thumper AI. I would also like to thank the sponsor for narrowing some of the exemptions to being defined as a high risk AI algorithm.

I have 2 specific concerns with the legislation outside of the general concern that the bill needs more time to gather feedback from AI experts and companies:

AI System Definition Includes Non-AI Products / Technologies

The current artificial intelligence system definition is so wide as to include almost all forms of technology created in the last 30 years. We cannot say everything is AI just because defining AI is challenging. Leader Rodriguez has previously agreed that under this current bill your car keys could likely be considered an artificial intelligence system. As a result, under the current legislation, I worry that consumers may have to be notified every time they open their car that they are using AI because car keys are classified as AI and they are not apparently AI because they are not really AI. You can replace car keys with a huge number of consumer products and technologies that really have nothing to do with AI. This bill could have a massive unintended impact on a huge amount of non-AI products and services.

The solution to this is to improve our AI system definition so we may have a robust definition that may hopefully be used throughout all current and future AI legislation.

There are two criteria I recommend adding to qualify a system as an AI system:

- minimum number of parameters necessary to qualify a system as an artificial intelligence system
- requirement to have been trained on a dataset of some minimum size

Here is a below redline of the AI system definition that I believe would prevent non-ai products from being classified as an AI system:

"ARTIFICIAL INTELLIGENCE SYSTEM" MEANS ANY
9 ~~MACHINE~~ SOFTWARE-BASED SYSTEM THAT CONTAINS GREATER THAN 500
FLOATING POINT OR INTEGER PARAMETERS AND HAS BEEN CREATED BY
OPTIMIZING A MATHEMATICAL MODEL OVER AN INPUT DATASET OF MORE THAN
200 DATA POINTS, AND THAT FOR ANY EXPLICIT OR IMPLICIT OBJECTIVE ,
10 INFERS FROM THE INPUTS THE SYSTEM RECEIVES HOW TO GENERATE
11 OUTPUTS, INCLUDING CONTENT, DECISIONS, PREDICTIONS, OR
12 RECOMMENDATIONS, THAT CAN INFLUENCE PHYSICAL OR VIRTUAL
13 ENVIRONMENTS.

Here is a brief summary of each of the changes above:

Machine-based vs Software-based: Machine-based is so broad as to include physical devices like car keys and garage openers. There are no AI systems used today that are machine-based and not software-based. It makes sense to limit to only AI software systems to avoid impacting other products and technologies

Minimum Parameter Threshold: Traditional statistics and most mathematical models outside of machine learning or AI domains typically use less than 100 parameters. In contrast, most machine-learning algorithms require anywhere from hundreds of parameters to billions of parameters for generative AI systems. By setting a minimum threshold to be an AI system, we could exempt non-AI software and technologies such as electronic control systems from being misclassified as an AI system.

Requiring Training on Dataset of a Particular Size: An important characteristic of AI systems is that they are created by optimizing a mathematical model over a training dataset that is usually large. A system that does not have some element of being mathematically optimized over a training dataset cannot be considered an AI system. Most machine learning algorithms function best when they have a large dataset. Most non-generative AI models require 100s to 1000s of data points at a minimum to function.

Loopholes for Decision Support Software Still Exists

3 of the original 4 exemptions or loopholes for high risk AI still exist. The most concerning of these remaining loopholes would be the narrow procedural task. In a software context, this could arguably be almost anything. I would strongly recommend further defining what a

narrow procedural task would be to provide clarity and avoid future litigation over what is and isn't exempt

AG As The As Regulator of AI

Other bills such as the frontier bill in California have proposed creating an AI commission to help regulate AI companies. AI companies and consumers would be better served by an AI commission or separate regulatory division of AI experts to take the majority of the responsibility for regulating AI in Colorado. The vague language of this bill coupled with the lack of a regulatory body sets up a future conflict between AI companies and regulators who may have very different interpretations of this bill on many different levels. AI is moving at an extremely rapid pace right now and a Colorado AI commission would be able to better respond more flexibly to any new AI developments. We advise that future legislation strongly consider creating a group of AI experts in some way to make AI regulation more effective and nimble.

In summary, I hope that there will be greater consideration to fix this bill and possibly provide more time for input from AI companies and experts.

Best Regards,

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CEO Thumper AI