Date of Hearing: April 16, 2024

ASSEMBLY COMMITTEE ON PRIVACY AND CONSUMER PROTECTION
Rebecca Bauer-Kahan, Chair
AB 2885 (Bauer-Kahan) – As Amended April 1, 2024

AS PROPOSED TO BE AMENDED

PROPOSED FOR CONSENT

SUBJECT: Artificial Intelligence

SYNOPSIS

Despite being referenced several times in California Code, the term "artificial intelligence" (AI) has yet to be formally defined. The precise language adopted by California – which technologies are considered AI, and which are not – will define the scope of California's regulatory efforts.

This bill inserts a definition for AI into California Code. The language provided is derived from a definition developed by the Organisation for Economic Co-operation and Development (OECD), with minor changes. By adapting from OECD, this bill attempts to align the Legislature's definition of AI with other major definitions. This bill also updates various sections of state law that reference AI by pointing them towards the provided definition.

This bill is author-sponsored.

SUMMARY: Defines artificial intelligence (AI) and inserts references to the provided definition throughout code. Specifically, **this bill**:

1) Defines "artificial intelligence" to mean an engineered or machine-based system that, for explicit or implicit objectives, infers from the input it receives how to generate outputs that can influence physical or virtual environments.

2) Places references to this definition into various code sections where the term "artificial intelligence" is used.

EXISTING LAW:

1) Requires social media companies to submit to the Attorney General, on a semiannual basis, a terms of service report that includes information on certain categories of harmful content. This report must include how the content was flagged and actioned: for example, whether it was flagged/actioned by company employees or contractors, by *artificial intelligence* software, by community moderators, by civil society partners, or by users. (Bus & Prof. Code § 22677.)

2) Requires the California Online Community College to develop a Research and Development Unit which focuses on, among other things, using technology, data science, behavioral science, machine learning, and *artificial intelligence* to build out student supports. (Ed. Code § 7500.)

3) Declares that President Obama's 2013 Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative has the potential to be a major driver of new industries and jobs in biotechnology, *artificial intelligence*, and information technologies. (Ed. Code § 92985.5.)

4) Defines "automated decision system" to mean a computational process derived from machine learning, statistical modeling, data analytics, or *artificial intelligence* that issues simplified output, including a score, classification, or recommendation, that is used to assist or replace human discretionary decisionmaking and materially impacts natural persons. (Gov. Code § 11546.45.5.)

5) Defines "deepfake" to mean audio or visual content that has been generated or manipulated by *artificial intelligence* which would falsely appear to be authentic or truthful and which features depictions of people appearing to say or do things they did not say or do without their consent. Defines "digital content forgery" to mean the use of technologies, including artificial intelligence and machine learning techniques, to fabricate or manipulate audio, visual, or text content with the intent to mislead. (Gov. Code § 11547.)

6) Requires a local agency, as defined, to issue a public annual report after granting an economic development subsidy for a warehouse distribution center within its jurisdiction. Requires the report to contain, among other things, information related to net job loss or replacement due to the use of automation, *artificial intelligence*, or other technologies, if known. (Gov. Code § 53083.1.)

7) Requires a Producer Responsibility Organization (PRO), as defined, to submit a plan and budget that may include, among other things, elements that would facilitate the deployment of innovative recycling systems that utilize advanced technology, such as *artificial intelligence* and robotics, to improve identification and sorting. (Pub. Res. Code § 42051.1.)

8) Requires the Department of Resources Recycling and Recovery to prepare statewide needs assessments in furtherance of the Plastic Pollution Prevention and Packaging Producer Responsibility Act. A needs assessments may address, among other things:

   a) The ability for innovative and advances technologies, such as *artificial intelligence*, to improve the State's processing capacity and infrastructure.

   b) Integrating innovative and advanced technologies that utilize *artificial intelligence* to improve data collection in order to identify, categorize, and track the recycling process.

   c) Utilizing advanced technology, such as *artificial intelligence* and robotics, to improve identification and sorting. (Pub. Res. Code § 42060.)

FISCAL EFFECT: As currently in print this bill is keyed fiscal.

COMMENTS:

1) **Background.** Artificial intelligence (AI) is creating exciting opportunities to grow California's economy and improve the lives of its residents. At the same time, the unregulated adoption of AI has the potential to erode Californians' privacy and widen equity gaps. In response to the explosive growth of the AI industry in recent years, California's legislature has

introduced a battery of bills aimed at regulating the use of AI in the state. The 2023-2024 legislative session has so far seen the introduction of 63 bills and resolutions that contain the phrase "artificial intelligence," compared to 13 such bills in 2021-2022.

Many of these 63 bills define AI; this is necessary, as clearly defining AI helps determine which products and technologies are affected by each bill. But introducing 63 competing definitions into California Code could create considerable confusion for regulators and innovators. AB 2885 would address this by inserting a single, broad definition of AI into the Government Code. Individual bills seeking to regulate specific use cases or technologies could refer to this common definition as a starting point, while also including additional language that appropriately narrows a bill's scope.

What is AI? AI refers to the use of artificial systems to mimic human cognitive abilities. AI uses algorithms – sets of rules – to transform inputs into outputs. Inputs and outputs can be anything a computer can process: numbers, text, audio, video, or movement. This is because AI is not fundamentally different from other computer functions. Its novelty lies in its application: unlike normal computer functions, AI is able to accomplish tasks that are normally performed by humans.

Properly defining AI for legislative purposes is non-trivial. As summarized by the U.S. Congressional Research Service:

> AI research and applications are evolving rapidly. Thus, congressional consideration of whether to include a definition for AI in a bill, and if so how to define the term or related terms, necessarily include attention to the scope of the legislation and the current and future applicability of the definition. Considerations in crafting a definition for use in legislation include whether it is expansive enough not to hinder the future applicability of a law as AI develops and evolves, while being narrow enough to provide clarity on the entities the law affects. Some stakeholders, recognizing the many challenges of defining AI, have attempted to define principles that might help guide policymakers. Research suggests that differences in definitions used to identify AI-related research may contribute to significantly different analyses and outcomes regarding AI competition, investments, technology transfer, and application forecasts.[1]

An effective definition of AI must be both narrow, in order to exclude both non-AI computer functions and natural biological organisms, and broad, in order to cover the greatest possible number of technologies and applications (thereby protecting the greatest possible number of Californians.) In pursuit of a concise, effective definition for AI, regulatory authorities around the world have converged on seven core components. Under this framework, an AI system must:

1) *Be machine-based.* Some definitions expand this to include "engineered or machine-based." This requirement effectively excludes all naturally-occurring biological organisms.

2) *Have objectives.* AI do not exist in a vacuum, aimlessly pondering the universe – they have discrete goals. Some definitions limit these goals by specifying "human defined

[1] Congressional Research Service, *Artificial Intelligence: Background, Selected Issues, and Policy Considerations* (May 19, 2021) pp. 1-2, *available at* https://crsreports.congress.gov/product/pdf/R/R46795.

goals," while others acknowledge that certain AI are capable of determining their own objectives.

3) *Perform inference.* "Model inference" fundamentally separates AI from non-AI computer functions. When an AI is exposed to data, that process is known as "training." The algorithm that a machine learning tool develops during training is known as its "model." The specific model that an AI develops during training informs how an input is transformed into an output; this process is known as "model inference".

4) *Receive inputs.* AI can be thought of as a math equation that transforms inputs into outputs. "Inputs" are one half of that equation.

5) *Generate outputs.* "Outputs" are the other half of that equation.

6) *Influence physical or virtual environments.* Similar to the requirement that an AI "have objectives", an AI that floats in a vacuum not affecting anything around it need not be covered by the definition. Including "physical or virtual environments" acknowledges that some AI have effects on the physical world, such as self-driving vehicles, while others' effects are contained to the digital world, such as social media platforms' content recommendation systems.

7) *Operate with various levels of autonomy and adaptiveness.* Different AI exist at various levels of complexity, but should nonetheless be covered by the definition.

2) **Author's statement.** According to the author:

> The term "artificial intelligence" currently appears in several California statutes, but remains undefined in California Code. In the absence of a common definition, AI will instead be defined on a case-by-case basis in California statute. These definitions will inevitably conflict, leading to inefficiencies and loopholes that could stifle innovation – or worse, leave Californians unprotected.
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> At present, industries that leverage AI for any aspect of their business lack clarity as to whether future regulations will affect them. In the absence of a single, shared definition, innovators may find their products subject to a patchwork of regulations that differ between, or even within, major global markets. As a result, developing a common definition for AI in California Code is critically important.

3) **What this bill would do.** This bill would define artificial intelligence to mean "an engineered or machine-based system that varies in its level of autonomy can, for explicit or implicit objectives, infer from the input it receives how to generate outputs that can influence physical or virtual environments." This bill would insert this definition into Gov. Code § 11546.45.5, and would insert additional references to this definition into sections of code that use the term "artificial intelligence" without an accompanying definition.

4) **Analysis.** According to the author, the definition of AI that appears in this bill is adapted from the 2023 OECD definition of AI, with a few minor changes. The decision to adapt the 2023 OECD definition is justified. Among the major definitions of AI, the 2023 OECD definition is relatively succinct and technology-neutral: "Artificial intelligence is a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs

such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptiveness after deployment."[2]

Where this bill's definition differs from the 2023 OECD definition, it appears to improve upon it. This bill amends the phrase "machine-based system" to include "engineered or machine-based," seeming to adopt this language from the National Institute of Standards and Technology's (NIST) definition of AI: "*an engineered or machine-based system* that can, for a given set of objectives, generate outputs such as predictions, recommendations, or decisions influencing real or virtual environments. AI systems are designed to operate with varying levels of autonomy."[3]

This adjustment serves to make the bill more technology neutral. In the future, it is not obvious that the majority of AI applications will run on "machines" as they are currently understood. Already, the emerging field of organoid intelligence seeks to use biological matter as the substrate for artificial intelligence in place of silicon hardware.[4] As a result, the author's inclusion of the words "engineered or" into the definition may serve to future-proof it somewhat.

The author has chosen to insert their definition into Gov. Code § 11546.45.5. This section of code defines various terms, one of which ("automated decision system") specifically depends on the definition of AI. It should be noted that this code section is set to expire in 2029; before then, the legislature may wish to either shift the definition of AI from this section to a more permanent section of code, or alter this section's sunset provision.

The author also inserts language into various pieces of code that reference artificial intelligence, but that do not currently provide a definition for the term. Importantly, they only insert language at locations where the scope of the legislation is affected by the definition of AI. For example: Ed. Code § 92985.5 outlines the potential benefits of an Obama-era federal policy that is related to AI, but does not depend on any particular definition. Accordingly, the author chooses not to amend this section.

This bill's attempt to normalize the definition of AI across disparate pieces of code is justified. Adopting a common definition for AI across code will help avoid creating a patchwork regulatory framework within the state. Adopting a definition that derives from another major definition will help normalize the meaning of AI across global jurisdictions.

5) **Committee amendments.** In order to bring the definition provided by this bill fully in line with commonly accepted international definitions, the following amendment has been proposed:

> "Artificial intelligence" means an engineered or machine-based system that ***varies in its level of autonomy and that can***, for explicit or implicit objectives, ~~infers~~ ***infer*** from the input it receives how to generate outputs that can influence physical or virtual environments.

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[2] OECD, *Recommendation of the Council on Artificial Intelligence* (July 11, 2023), *available at* https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449.
[3] National Institute of Standards and Technology, *Artificial Intelligence Risk Management Framework 1.0* (January 2023), *available at* https://nvlpubs.nist.gov/nistpubs/ai/NIST.AI.100-1.pdf
[4] Ashley Strickland, "Move over, artificial intelligence. Scientists announce a new 'organoid intelligence' field," *CNN*, March 2, 2023, https://www.cnn.com/2023/03/02/world/brain-computer-organoids-scn/index.html.

6) **Related legislation.** AB 1282 (Lowenthal, 2023) defines artificial intelligence as a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments.

AB 1873 (Sanchez, 2024) defines artificial intelligence as a machine-based system that can, from a given set of human-defined objectives, make a virtual output.

AB 2013 (Irwin, 2024) defines artificial intelligence as a machine-based system or service that can, for a given set of human-defined objectives, generate content and make predictions, recommendations, or decisions influencing a real or virtual environment.

AB 2355 (Wendy Carrillo, 2024) defines artificial intelligence as a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments, and that uses machine and human-based inputs to 1) perceive real and virtual environments; 2) abstract such perceptions into models through analysis in an automated manner; and 3) use model inference to formulate options for information or action.

AB 2930 (Bauer-Kahan, 2024) defines artificial intelligence as a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing a real or virtual environment.

AB 3050 (Low, 2024) defines artificial intelligence as a machine or software that has the capacity to mimic human cognitive functions, including, but not limited to, learning, problem solving, and patter recognition, which enables the machine or software to perform tasks that normally require human intelligence.

AB 3211 (Wicks, 2024) defines artificial intelligence as a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs, including, but not limited to, predictions, content, recommendations, or decisions that may influence physical or virtual environments.

SB 892 (Padilla, 2024) defines artificial intelligence as a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing a real or virtual environment.

SB 942 (Becker, 2024) defines artificial intelligence as a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments by using machine-based inputs and human-based inputs to perceive real and virtual environments, abstract its perceptions into models through analysis in an automated manner, and use model inference to formulate options for information or action.

SB 970 (Ashby, 2024) defines artificial intelligence as the simulation of human intelligence processes by computer systems or other machines.

SB 1047 (Wiener, 2024) defines artificial intelligence as a machine-based system designed to operate with varying levels of autonomy that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs that can influence physical or virtual environments.

SB 1235 (Gonzalez, 2024) defines artificial intelligence as a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments. Artificial intelligence systems use machine- and human-based inputs to 1) perceive real and virtual environments; 2) abstract those perceptions into models through analysis in an automated manner; and 3) use model inference to formulate options for information or action.

The following bills use the term "artificial intelligence" without defining it:

- AB 459 (Kalra, 2023)
- AB 1831 (Berman, 2024)
- AB 2200 (Kalra, 2024)
- AB 2370 (Cervantes, 2024)
- AB 2412 (Reyes, 2024)
- AB 2512 (Jim Patterson, 202)
- AB 2602 (Kalra, Bryan, and Friedman, 2024)
- AB 2652 (Muratsuchi, 2024)
- AB 2655 (Berman, 2024)
- AB 2811 (Lowenthal, 202)
- AB 2839 (Pellerin, 2024)
- AB 2876 (Berman, 2024)
- AB 2905 (Low, 2024)
- AB 3030 (Calderon, 2024)
- AB 3058 (Low, 2024)
- AB 3204. (Bauer-Kahan, 2024)
- SB 721. (Becker, 2023)
- SB 893 (Padilla, 2024)
- SB 896 (Dodd, 2024)
- SB 933 (Wahab and Ochoa Bogh, 2024)

- SB 1154 (Hurtado, 202)
- SB 1220 (Limón, 2024)
- SB 1228 (Padilla, 2024)
- SB 1229 (Nguyen, 2024)
- SB 1288 (Becker, 2024)

REGISTERED SUPPORT / OPPOSITION:

Support

None on file

Opposition

None on file

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