Date of Hearing: April 2, 2019

<div align="center">

ASSEMBLY COMMITTEE ON PRIVACY AND CONSUMER PROTECTION
Ed Chau, Chair
AB 594 (Salas) – As Amended March 19, 2019

</div>

SUBJECT: Artificial intelligence

SUMMARY: This bill would establish the California Artificial Intelligence Act of 2020 and provide for the appointment of a Chief Artificial Intelligence Officer within the California Department of Technology (CDT) to evaluate the uses of artificial intelligence (AI) in state government and advise the CDT director and the California Workforce Development Board, as specified. It would also establish an advisory Commission on Artificial Intelligence (Commission), as specified, to study the potential uses of AI and develop a policy framework to manage the use of AI. The Commission would be required to provide an advisory report to the Legislature on or before January 1, 2022, as specified. Specifically, **this bill would**:

1) Enact the California Artificial Intelligence Act of 2020 (Act) and require, no later than January 1, 2021, that the director of CDT appoint a Chief AI Officer within CDT to evaluate the uses of AI in state government and to advise the CDT director on incorporating AI into state information technology strategic plans, policies, standards, and enterprise architecture.

2) Require that the Chief AI Officer advise the California Workforce Development Board in its review of statewide policies and programs related to workforce, education, training, and employment for the purpose of preparing and retraining workers whose jobs may be displaced or transformed by AI.

3) Establish an advisory Commission comprised of eight members, including the Chief AI Officer, the Secretary of Labor, and six appointed members, which would include representatives from the private industry, higher education, and organized labor, as specified.

4) Require the Commission to study the potential uses of AI and develop a policy framework to manage the use of AI as specified, and to submit to the Legislature on or before January 1, 2022, a report containing the findings, advice, and recommendations of the Commission. This bill would further require that the framework include advice and recommended strategies to do the following:

    - Establish an ethical framework informed by the 23 Asilomar AI Principles and ensure the ethical use of artificial intelligence.

    - Maximize the standard of living and minimize suffering for all humans through the use of artificial intelligence.

    - Encourage state agencies to create and implement a strategic plan to utilize artificial intelligence in the execution of state functions.

    - Educate and train students and workers in the application of artificial intelligence and to prepare them for the jobs of the future.

    - Minimize any potential negative impact of artificial intelligence on the labor market.

5) Specify that the report, above, will be advisory only and that there shall be no authority or obligation on the part of the state, or the parties meeting and conferring, to implement the findings of the commission without the enactment of subsequent legislation to implement the report.

6) Define various terms for purposes of this Act, including, among other things:

- "23 Asilomar AI Principles" to refer to 23 principles of beneficial AI formulated at the conference organized by the Future of Life Institute in 2017, as specified, which include, among other things:

  o The goal of AI research should be to create not undirected intelligence, but beneficial intelligence.

  o There should be constructive and healthy exchange between AI researchers and policymakers.

  o If an AI system causes harm, it should be possible to ascertain why.

  o AI systems should be designed and operated so as to be compatible with ideals of human dignity, rights, freedoms, and cultural diversity.

  o The application of AI to personal data must not unreasonably curtail people's real or perceived liberty.

  o The economic prosperity created by AI should be shared broadly, to benefit all of humanity.

EXISTING LAW:

1) Establishes the CDT within the Government Operations Agency in state government. (Gov. Code Sec. 11545(a)(1).)

2) Enumerates the duties of the Director of Technology, which includes, among other things:

- advising the Governor on the strategic management and direction of the state's information technology (IT) resources;

- establishing and enforcing state IT strategic plans, policies, standards, and enterprise architecture, as specified;

- minimizing overlap, redundancy, and cost in state IT operations by promoting the efficient and effective use of information technology;

- providing technology direction to agency and department chief information officers to ensure the integration of statewide technology initiatives, compliance with information technology policies and standards, and the promotion of the alignment and effective management of information technology services;

- working to improve organizational maturity and capacity in the effective management of IT; and,

- establishing performance management and improvement processes to ensure state IT systems and services are efficient and effective. (Gov. Code Sec. 11545(b).)

3) Requires reports to the Legislature to be submitted in printed copy to the Secretary of the Senate, electronically to the Chief Clerk of the Assembly, and as an electronic or printed copy to the Legislative Counsel, as specified. (Gov. Code Sec. 9795.)

4) Provides, in relevant part, that a bill that, as introduced or amended in either house of the Legislature, would require a state agency to submit a report on any subject to either house of the Legislature generally, a committee or office of either house of the Legislature, or the Legislative Counsel Bureau shall include a provision that repeals the reporting requirement, or makes the requirement inoperative, no later than a date four years following the date upon which the bill, as enacted, becomes operative or four years after the due date of any report required every four or more years. (Gov. Code Sec. 10231.5(a).)

FISCAL EFFECT: Unknown

COMMENTS:

1) **Purpose of this bill**: This bill seeks to establish an advisory Commission on AI and a Chief AI Officer in state government to collectively help study and advise on the incorporation of AI and, particularly, in relation to state IT and state workforce related issues. This is an author-sponsored bill.

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

> AI is already playing an increasing role in jobs throughout California. In many situations, a human-computer team can be more useful [than] either one by themselves. For example, a recent radiology study asked a human pathologist and an AI to determine if a photographed cell contained cancer or not. The AI had a 7.5 percent error rate and the human had a 3.5 percent error rate, but when the human and AI worked together the error rate dropped dramatically to 0.5 percent, an 85 percent reduction.

> AI has proven itself incredibly useful in managing large systems. For instance, AI-enabled smart traffic management applications reduce wait times, energy use, and emissions by as much as 25 percent. There are already fleets of autonomous sailboats and watercraft that patrol the oceans collecting data on changes to the ecosystems, a much cheaper and safer option than having crewed vessels.

> As AI technology evolves, massive changes will come to California's workforce. [Fifty-one] percent of time spent in US occupations is highly susceptible to replacement by AI. The areas likely to be hit the hardest are data collection, data processing, and predictable physical work. A 2017 study by McKinsey and Company predicted a loss of 39 million jobs and displacement of 23 percent of the workforce in the U.S. by 2030 due to increased automation.

However, there is opportunity for growth in other sectors of the economy to make up for jobs lost to automation and AI. An aging population and new green technologies could create demand for more doctors, nurses, manufacturing workers, construction workers, etc. There will also likely be an expansion in the technology sector, as the need for those who understand and can manage AI systems increases.

Most California [s]tate [a]gencies, 80 percent, do not currently use AI, but almost a quarter say they intend to use AI in the next 10 years. Between chatbots, automatic processing, and profiling potential parolees, [s]tate [a]gencies are slowly introducing AI to the State workplace.

All these new systems, however, are occurring independent of one another. There is not currently an overall plan for how the State should use AI, nor are there frameworks on how to prepare workers and students for the coming changes to the economy. AB 594 and the Chief Artificial Intelligence Officer it creates would develop such a plan, and help guide California through this new area of opportunity.

3) **Background on the opportunities and challenges of AI**: Last spring, this Committee held a joint informational hearing with the Assembly Select Committee on Emerging Technologies & Innovation on the topic of AI, to begin a preliminary discussion of the promises and challenges presented by AI. The overarching goal of the hearing was to bring members and staff a greater understanding of AI in order to engender more thoughtful public policy in the future. As recognized in the committees' background paper on AI, the opportunities and challenges posed by AI are significant, and in many ways still being uncovered:

[…] AI is frequently associated with technologies linked to our smartphones, or new gadgets like virtual assistants or smart speakers like Alexa or Google Home. In cinema, it is often portrayed as "robot apocalypse." For the Legislature, contemplating AI applications of the "future" frequently includes autonomous vehicles and concerns displacement of workers with the automation of jobs. Beyond such examples, however, it is not as obvious what AI looks like five years down the line, let alone [ten]. […]

For example, for many people, AI is not immediately associated with social justice. However, at the University of Southern California, the Center for Artificial Intelligence in Society (CAIS) has brought researchers together from around the world to focus on how computer science can be used to solve social problems. Indeed, from the CAIS' perspective, AI can be used to improve society and fight social injustice. Their current projects include: AI for Cybersecurity; HIV prevention among homeless youth; Wildlife Conservation with drones; AI for Wildlife Conservation in Africa; Predictive modeling of tobacco use and prevention among abused children; Predictive models of vulnerability and housing prioritization for youth and families; Gang violence prevention using game theory; Social network-based substance abuse prevention for homeless youth; Predictive modeling for early identification of suicidal thinking among active duty service members; Network-based suicide prevention for college students; AI for public safety and security using game theory; and others.

At the same time, while AI may present unique solutions to social problems or even governmental ones, as indicated above, it may very well exacerbate others if not done with adequate safeguards in place. For example, governmental entities may turn to AI for useful applications in everything from enhancing delivery of services to better addressing

public safety concerns. Consider how some states' courts have sought to apply AI to conduct risk assessments (i.e. assessments of how likely a defendant is to commit future crimes) through the use of seemingly neutral algorithms. Already, concerns have been raised about how these algorithms may in fact reinforce or aggravate biases. (Citing Anwin, Larson, Mattu, and Kirchner, *Machine Bias*, ProPublica (May 23, 2016) [as of Mar. 4, 2018].)

Notably, at the same time that this Committee began this joint-endeavor to generate greater understanding of the opportunities and challenges of AI within the Legislature, the Little Hoover Commission (LHC) was simultaneously studying the same topic. The LHC began its process, which included both public hearings and roundtables, with a public hearing on January 25, 2018, entitled "Artificial Intelligence: Applications and Implications." At that first hearing, the LHC indicated that it ultimately intended to produce a report and policy recommendations about how the State of California can approach AI.

Indeed, in November 2018, the LHC produced its report, *Artificial Intelligence: A Roadmap for California*, wherein it similarly recognized the possible benefits and potential misuses of AI:

> Imagine using AI applications to predict where fires may occur, detect early-stage wildfires, or guide firefighters where best to fight a fire and save lives. Conceive of an environment where AI could promote biodiversity and water conservation, and protect endangered species. See educators using AI to improve student learning and increase graduation rates. Envision better detection of diseases, including cancer, and more finely-tuned effective treatments. Certainly, such visions must be tempered with appropriate privacy protections and robust laws aimed at preventing the misuse of data. In addition, this encouraging future, which is presently knocking at our door, will require not just foresight but insight, not just political will but political action, and not just one mind but a collaboration of minds in government, academia, and private industry. (*See* Chairman Pedro Nava Opening Letter, LHC Report #245, *Artificial Intelligence: A Roadmap for California* (Nov. 2018), p. 1; hereinafter "LHC Report.")

4) **Numerous bills on AI this year**: This bill is one of many bills on AI this year. This Committee previously heard and approved AB 976 (Chau), which was supported by the LHC, and sought to create the Artificial Intelligence in State Government Services Commission. This Committee is also set to hear AB 459 (Kiley) which seeks to require the AB 976-proposed commission to develop various minimum standards for the use of AI in state government. Most recently, AB 1576 (Calderon) was recently referred to this Committee, to be heard at a future hearing. There are also bills in the Senate which could potentially also address similar issues. This bill would, similar to AB 976 (and potentially other bills this Committee has yet to hear), establish a state advisory commission to help study and advise on the incorporation of AI. In this regard, the bill is broader than AB 976 advisory commission, which would examine, specifically, the use of AI in state government services. The authors of each of these and other AI bills should work together, to ensure that duplicative commissions and responsibilities are not created in state law.

Staff notes that one key difference in this bill, that has not been seen in AB 976 or AB 459, is the establishment of a Chief AI Officer in the CDT to advise both the director of CDT and the California Workforce Development Board. This bill also incorporates the 23 Asilomar

Principles that were the subject of a resolution last year, which expressed the support of the Legislature for those 23 principles as guiding values for the development of AI and of related public policy. (*See* ACR 215 (Kiley, Ch. 206, Stats. 2018).) As noted in the LHC Report, "[o]ver 1,200 AI and robotics researchers signed the principles, which are intended to promote the safe and beneficial development of AI." They include, for example, principles on judicial transparency and personal privacy:

- Any involvement by an autonomous system in judicial decision-making should provide a satisfactory explanation auditable by a competent human authority. (Principle #8.)

- People should have the right to access, manage and control the data they generate, given AI systems' power to analyze and utilize that data. (Principle #12.)

Lastly, to the extent that this bill requires that a state commission study the potential uses of AI and develop a policy framework that includes advice and recommendations in certain areas, including in establishing an ethical framework that is informed by the 23 Asilomar AI Principles and ensures the ethical use of AI, this bill is consistent with prior public policies supported by this Legislature and addresses a key question of the ethical use of AI. This could also greatly improve the ability of this Legislature to address an issue raised in the LHC Report. Namely, that "California state government is underprepared to take the lead [in AI]. It lacks any single clear leadership and focus on the development and use of AI technology and applications to improve internal and external operations and services *within an ethical framework*." (*Id*. at 15.)

5) **Chief AI Officer within CDT**: As noted in Comment 4, above, this bill would require the director of CDT to appoint a Chief AI Officer within the department to evaluate the uses of AI in state government and to advise the CDT director on incorporating AI into state information technology strategic plans, policies, standards, and enterprise architecture. This appears consistent with the statutory responsibility of the CDT director to advise the Governor on the strategic management and direction of the state's IT resources (many of which may be shaped or affected by uses of AI), to provide technology direction to agency and department chief information officers to ensure the integration of statewide technology initiatives, and to establish and enforce state IT strategic plans, policies, standards, and enterprise architecture. (*See* Gov. Code Sec. 11545(b).)

The inclusion of a Chief AI Officer in CDT is arguably not only appropriate to incorporate AI expertise more directly in the department that houses the State's existing expertise in statewide IT resources and IT-related solutions and initiatives, but also consistent with activities undertaking by CDT in recent years to cultivate AI expertise within its Office of Digital Innovation (ODI). CDT originally launched ODI in 2016 to define an approach to government technology innovation that would drive the department forward as a thought leader and technology innovator in state government. To that end, ODI already appears to be considering some applications of AI within state government. A 2018 Techwire article, for example, noted that CDT's Digital Web Services Network, led by ODI, was established as "a forum where state partners (and) local government can share information for digital services including policy, technology, tools and best practices" and would include a discussion around AI at its then-upcoming quarterly meeting. (Techwire, *CDT Web Services Meeting to Focus on AI, Innovation* (Oct. 17, 2018) <https://www.techwire.net/news/cdt.html> [as of Mar. 12, 2019].)

As such, the proposed Chief AI Officer could provide greater expertise in AI applications more broadly to help inform the CDT director in their responsibilities in shaping the use and direction of IT in the State. Having such expertise, through an individual who has visibility into the State's use of AI as a whole, can prevent state entities from taking a needlessly siloed and potentially redundant or costly approach to AI. Inversely, it can ensure that the State's use of AI is efficient and effective and in alignment with its overall IT management and strategy. Furthermore, a Chief AI Officer could potentially also be useful to specific state entities, such as the California Workforce Development Board, by advising that board in its review of statewide policies and programs related to workforce, education, training, and employment for the purpose of preparing and retraining workers whose jobs may be displaced or transformed by AI, as otherwise required under this bill.

6) **AI definition**: As noted in this Committee's joint informational hearing on AI last year, "[t]hough first coined by a Dartmouth professor, John McCarthy, in the 1950s, there still does not appear to be any singular, consistent definition of [AI] in use today, over 60 years later." One the one hand, providing definitions for bills such as this, which seek to establish commissions or AI-focused personnel within state government, may help to provide helpful parameters and greater understanding of how the Legislature understood AI at the time of that those entities and positions were created. On the other hand, given the varying definitions that exist even today, flexibility may be warranted, for example to avoid unduly limiting the new commission's purposes under this bill. Leaving the term "undefined" with respect to any specific understanding of what is or is not "AI" at this given moment, may provide the Commission greater flexibility in making its recommendations.

As currently drafted, the bill would define the term to mean a form or application of technology that does either of the following:

- Performs cognitive functions commonly associated with human intelligence, including learning, problem solving, and pattern recognition.

- Simulates or engages in human behavior.

In contrast, the section of the LHC Report on "What is AI and What Opportunities Does it Offer?" describes AI, in part, as follows:

> Artificial intelligence (AI) is a quality of any computer program (algorithms, data structures and data) that *can sense, reason, act and adapt like humans*. While many AI systems can also learn over time (e.g., a spam filter, a recommendation system), not all can do so. An expert system built to aid human reasoning, or an autopilot that can land an airplane, are examples of AI applications that do not learn. Whenever a computer program's performance gains *near-humanlike* abilities, or *better than human* abilities, to sense, reason or act, we tend to call that AI. (*Id*. at 7, emphases added.)

The author may wish to consider whether the definition provided in this bill is as inclusive of different types of AI as the LHC Report description. For example, would the bill's definition of AI as technology that simulates or engages in "human behavior," be considered more narrow than the LHC Report discusses AI as "near humanlike like […] or better than human abilities"? A similar comparison could be made with how the bill defines AI as performing "cognitive functions" such as "learning, problem solving, and pattern recognition," whereas

the LHC Report describes its ability to "sense, reason, act, and adapt" like humans. What the implications of those differences are is not entirely clear, but they should be examined closely if the definition in the bill could be read to limit what the Commission considers as AI in its studies, or what the Chief AI Officer considers to be AI in its advisory roles.

7) **Related legislation**: AB 459 (Kiley) would require the Commission proposed by AB 976, below, to report to the Legislature on its recommended minimum standards for the use of AI in state government, as specified, on or before November 1, 2020. That bill contains contingent enactment language to ensure that it would take effect only if AB 976 is enacted and effective before January 1, 2020. This bill is also pending hearing in this Committee.

   AB 976 (Chau et al.) *See* Comment 4. That bill is in the Assembly Accountability and Administrative Review Committee.

   AB 1576 (Calderon) states the intent of the Legislature to enact legislation that would relate to identifying an appropriate state agency to analyze the possible impacts of AI technology on the state with a goal to ensuring that the state is ready to adopt and utilize the technology. This bill would require the Government Operations Agency Secretary to appoint an AI technology working group, to serve in an advisory capacity, as specified. The bill would require the working group to evaluate, among other things, the uses of AI technology by California-based businesses and associated risks (including privacy risks) with such usage.

   SB 348 (Chang) would require the secretaries of certain state agencies to devise a strategic plan, as specified, to utilize artificial technology to improve state services. The bill would encourage the Governor to appoint a special adviser on AI to create a statewide strategic plan, as specified, to utilize artificial technology to improve state services. The bill also would encourage certain entities to designate a chief AI officer. This bill is pending hearing in the Senate Governmental Organization Committee.

   SB 444 (Umberg) states the intent of the Legislature to enact legislation that would relate to civil actions and AI. This bill is currently in the Senate Rules Committee.

8) **Double-referral:** This bill is double-referred to the Assembly Labor and Employment Committee, where it will be heard if passed by this Committee.

REGISTERED SUPPORT / OPPOSITION:

Support

None on file

Opposition

None on file

Analysis Prepared by: Ronak Daylami / P. & C.P. / (916) 319-2200