Date of Hearing: July 2, 2024

ASSEMBLY COMMITTEE ON PRIVACY AND CONSUMER PROTECTION
Rebecca Bauer-Kahan, Chair
SB 1223 (Becker) – As Amended June 26, 2024

SENATE VOTE: 38-0

SUBJECT: Consumer privacy: sensitive personal information: neural data

SYNOPSIS

"Since, my friend, you have revealed your deepest fear,
I sentence you to be exposed before your peers.
Tear down the wall!"

- Pink Floyd's "The Trial"

In modern society, the mind serves as something of a final refuge for personal privacy. The physical world contains an endless array of cameras meant to record the comings and goings of individuals, and the digital world is explicitly designed to extract as much information as possible from its users. But until now, information that existed in the mind could only be inferred from an individual's actions. In the near future this may no longer be true, as technological advances improve humans' ability to measure and interpret brain activity.

There is no information more private than the thoughts, emotions, and fundamental beliefs that define an individual. This bill would define "neural data" to mean information that is generated by measuring the activity of a consumer's central or peripheral nervous system, and that is not inferred from nonneural information. This latter clarification is necessary, as all actions taken by humans – whether planned or spontaneous – ultimately arise from the activity of their nervous systems. This bill would also amend the definition of "sensitive personal information" under the California Consumer Privacy Act (CCPA) to include neural data, thereby granting neural data substantial protections under California's privacy laws.

This bill is sponsored by the Neurorights Foundation and supported by Oakland Privacy, California Medical Association. American Academy of Neurology, and Perk Advocacy. It is opposed by the California Chamber of Commerce, TechNet, and the Computer & Communications Industry Association. If this bill is passed out of this Committee it will next be heard by the Assembly Appropriations Committee.

SUMMARY: Defines "neural data" within the CCPA, and designates neural data to be sensitive personal information. Specifically, **this bill**:

1) Defines "neural data" to mean "information that is generated by measuring the activity of a consumer's central or peripheral nervous system, and that is not inferred from nonneural information" for the purposes of the CCPA.

2) Amends the CCPA's definition of "sensitive personal information" to include neural data.

EXISTING LAW:

1) Provides, pursuant to the California Constitution, that all people are by nature free and independent and have inalienable rights. Among these are the fundamental right to privacy. (Cal. Const. art. I, § 1.)

2) States that the "right to privacy is a personal and fundamental right protected by Section 1 of Article I of the Constitution of California and by the United States Constitution and that all individuals have a right of privacy in information pertaining to them." Further states these findings of the Legislature:

    a) The right to privacy is being threatened by the indiscriminate collection, maintenance, and dissemination of personal information and the lack of effective laws and legal remedies.

    b) The increasing use of computers and other sophisticated information technology has greatly magnified the potential risk to individual privacy that can occur from the maintenance of personal information.

    c) In order to protect the privacy of individuals, it is necessary that the maintenance and dissemination of personal information be subject to strict limits. (Civ. Code § 1798.1.)

3) Establishes the CCPA. (Civ. Code § 1798.100-1798.199.100.)

4) Establishes the California Privacy Protection Agency (Privacy Agency) and vests it with full administrative power, authority, and jurisdiction to implement and enforce the CCPA. (Civ. Code § 1798.1899.10.)

5) Defines "personal information" to mean information that identifies, relates to, describes, is reasonably capable of being associated with, or could reasonably be linked, directly or indirectly, with a particular consumer or household. States that personal information includes, but is not limited to, the following if it identifies, relates to, describes, is reasonably capable of being associated with, or could be reasonably linked, directly or indirectly, with a particular consumer or household (Civ. Code § 1798.140(v)):

    a) Identifiers such as a real name, alias, postal address, unique personal identifier, online identifier, Internet Protocol address, email address, account name, social security number, driver's license number, passport number, or other similar identifiers.

    b) Any personal information described in Section 1798.80(e).

    c) Characteristics of protected classifications under California or federal law.

    d) Commercial information, including records of personal property, products or services purchased, obtained, or considered, or other purchasing or consuming histories or tendencies.

    e) Biometric information.

    f) Internet or other electronic network activity information, including, but not limited to, browsing history, search history, and information regarding a consumer's interaction with an internet website application, or advertisement.

g) Geolocation data.

h) Audio, electronic, visual, thermal, olfactory, or similar information.

i) Professional or employment-related information.

j) Education information, defined as information that is not publicly available personally identifiable information as defined in the Family Educational Rights and Privacy Act. (20 U.S.C. Sec. 1232g; 34 C.F.R. Part 99.)

k) Inferences drawn from any of the information identified in this subdivision to create a profile about a consumer reflecting the consumer's preferences, characteristics, psychological trends, predispositions, behavior, attitudes, intelligence, abilities, and aptitudes.

l) Sensitive personal information.

6) Defines biometric information to mean an individual's physiological, biological, or behavioral characteristics, including information pertaining to an individual's deoxyribonucleic acid (DNA), that is used or is intended to be used singly or in combination with each other or with other identifying data, to establish individual identity. (Civ. Code § 1798.140(c).)

7) Further defines "personal information" to include any information that identifies, relates to, describes, or is capable of being associated with, a particular individual, including, but not limited to, his or her name, signature, social security number, physical characteristics or description, address, telephone number, passport number, driver's license or state identification card number, insurance policy number, education, employment, employment history, bank account number, credit card number, debit card number, or any other financial information, medical information, or health insurance information. (Civ. Code § 1798.80(e).)

   a) States that personal information does not include publicly available information that is lawfully made available to the general public from federal, state, or local government records.

8) Defines sensitive personal information to mean any of the following:

   a) Personal information that reveals:

      i) A consumer's social security, driver's license, state identification card, or passport number.

      ii) A consumer's account log-in, financial account, debit card, or credit card number in combination with any required security or access code, password, or credentials allowing access to an account.

      iii) A consumer's precise geolocation.

      iv) A consumer's racial or ethnic origin, citizenship or immigration status, religious or philosophical beliefs, or union membership.

v) The contents of a consumer's mail, email, and text messages unless the business is the intended recipient of the communication.

vi) A consumer's genetic data.

b) The processing of biometric information for the purpose of uniquely identifying a consumer.

c) Personal information collected and analyzed concerning a consumer's health.

d) Personal information collected and analyzed concerning a consumer's sex life or sexual orientation. (Civ. Code § 1798.140(ae).)

9) Limits a business' collection, use, retention, and sharing of a consumer's personal information to that which is reasonably necessary and proportionate to achieve the purposes for which the personal information was collected or processed, or for another disclosed purpose that is compatible with the context in which the personal information was collected, and not further processed in a manner that is incompatible with those purposes. (Civ. Code § 1798.100(c).)

10) Provides that consumers have the right, at any time, to direct a business that collects sensitive personal information about the consumer to restrict the use of that information to only that use which is necessary to perform the services or provide the goods reasonably expected by an average consumer who requests those goods or services. (Civ. Code § 1798.121(a).)

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

COMMENTS:

1) The nervous system. The human nervous system can be loosely divided into the central nervous system, which consists of the brain and the spinal cord, and the peripheral nervous system, which consists of the somatic and autonomic nervous systems (pictured below.)[1]

The brain. The brain is a complex and highly organized structure responsible for processing sensory information, regulating bodily functions, and enabling cognition, emotion, and behavior. The brain's various regions are each composed of billions of neurons connected by trillions of synapses, and different regions are specialized for different functions. The cerebral cortex, the outermost layer of the brain, is especially important for conscious thought; its four main lobes (frontal, parietal, temporal, and occipital) enable reasoning, sensory perception, language, and visual processing.

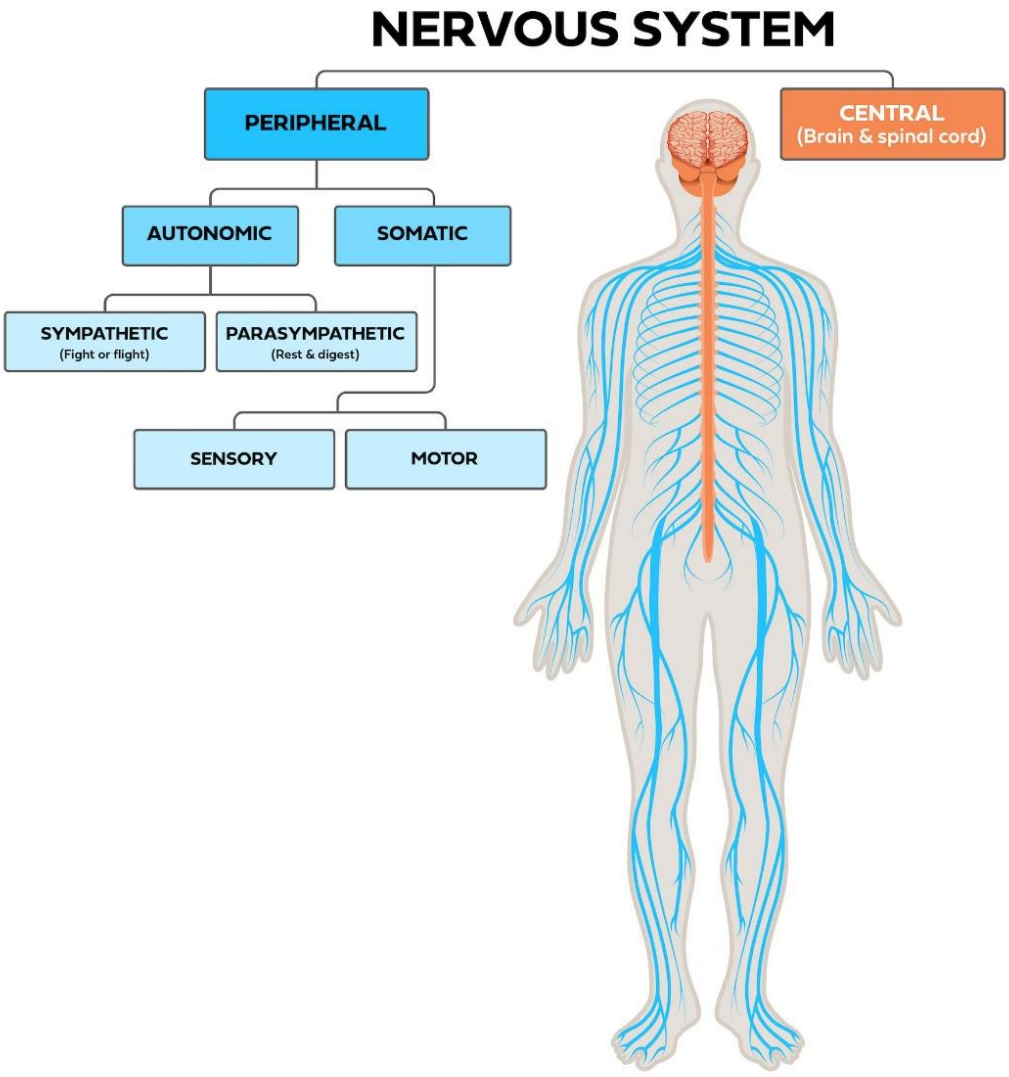
The spinal cord. The spinal cord is a cylindrical bundle of nerves encased within the vertebral column. It serves as the primary conduit for transmitting neural signals between the brain and the rest of the body, facilitating sensory inputs and motor outputs. The spinal cord also coordinates reflexes (involuntary responses to stimuli that do not directly involve the brain).

---

[1] Warfighter brain health—Part 1: Nervous system. https://www.hprc-online.org/total-force-fitness/tff-strategies/warfighter-brain-health-part-1-nervous-system.

The somatic nervous system. The somatic nervous system is responsible for voluntary control of body movements through the action of skeletal muscles. It is comprised of sensory neurons that convey information from sensory receptors in the skin, muscles, and joints to the central nervous system, and motor neurons that transmit commands from the central nervous system to the muscles.

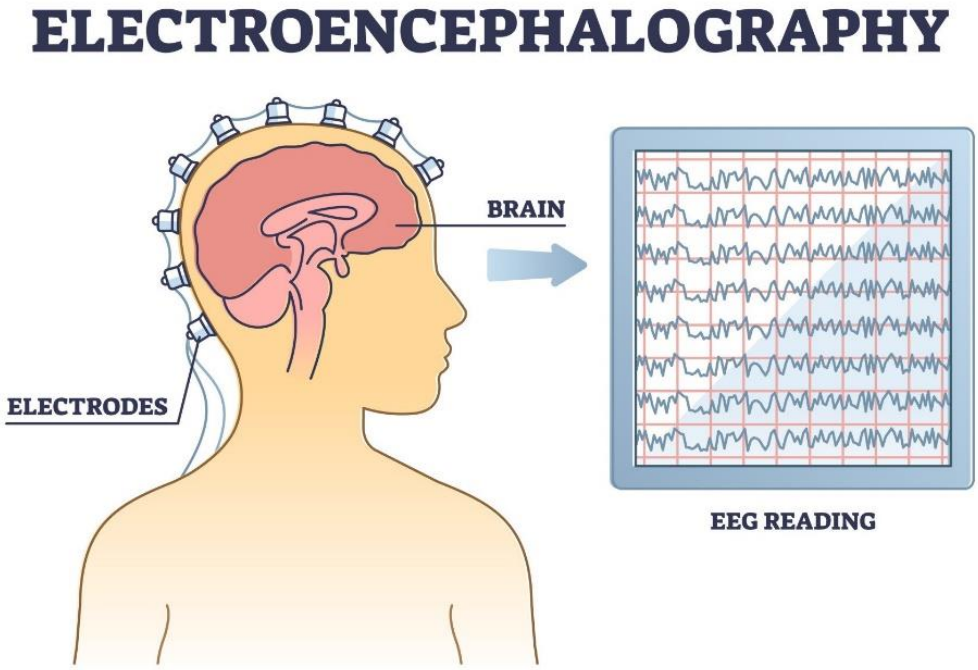
The autonomic nervous system. The autonomic nervous system regulates involuntary physiological functions in order to maintain homeostasis (the process by which living organisms maintain a stable internal environment), managing activities such as heart rate, digestion, and respiration. The autonomic nervous system is divided into the sympathetic and parasympathetic systems: the sympathetic system promotes "fight or flight" responses, while the parasympathetic system promotes "rest and digest" activities.



2) Forms of neural data. Activity in the human brain is rarely measured "directly" – instead, various technologies allow neural activity to be inferred from the effects neurons have on their immediate surroundings. These techniques report neural activity as a function of electrical activity, chemical signaling, or metabolic processing. For the purposes of this bill, these indirect measurements would be considered "neural information" – by comparison, "nonneural

information" would include the downstream physical effects of neuronal activity, such as pupil dilation, motor activity, and breathing rate. This bill's definition of "neural data" excludes information that is inferred from nonneural information – this is a necessary exemption, given that all human behavior is ultimately the result of nervous system activity. Were this not included in the definition, any measurement made of a human could potentially be considered "sensitive personal information" under the CCPA.

Electrical activity. Neurons mainly communicate using a combination of electrical and chemical signals. Electroencephalography (EEG), a common method for measuring electrical signals in the brain, involves placing electrodes on the scalp to detect electrical activity in the cerebral cortex.[2] EEG provides real-time data on brain wave patterns that correlate with different states of consciousness and cognitive activities. A related technique, magnetoencephalography (MEG), measures magnetic fields generated by neurons' electrical activity. Intracranial electrophysiology involves placing electrodes directly on the brain's surface or within the brain tissue, providing detailed information about neural activity at the level of individual neurons or small groups of neurons.



Chemical signaling. Chemical signaling involves the transmission of information between neurons through neurotransmitters and other chemical messengers – a process that underlies the vast majority of brain activities. Positron emission tomography (PET) and single-photon emission computed tomography (SPECT) are both imaging methods that use radioactive tracers to visualize the concentration of neurotransmitters in various parts of the brain. Another technique, microdialysis, involves sampling extracellular fluid in the brain to directly measure neurotransmitter levels.

[2] Olivia Guy-Evans, "EEG Test (Electroencephalogram): Purpose, Procedure, and Risks," *SimplyPsychology*.

Metabolic processes. "Metabolism" refers broadly to the chemical processes that occur within a living organism in order to maintain life. Though the brain is only responsible for about 2% of the human body's mass, it consumes approximately 20% of the body's energy resources. Metabolic activity in the brain can be assessed using various imaging techniques, including functional magnetic resonance imaging (fMRI), transcranial Doppler ultrasound, and near-infrared spectroscopy (NIRS.) fMRI measures changes in blood flow and oxygenation levels in the brain, providing indirect information about neural activity and energy consumption. Transcranial Doppler ultrasound measures blood flow velocity in the cerebral arteries. Near-infrared spectroscopy (NIRS) measures the absorption of near-infrared light by oxygenated and deoxygenated hemoglobin in the blood.

3) Mind reading. The Senate Judiciary Committee's analysis of this bill describes recent advances in technologies capable of measuring brain activity:

> Neurotechnologies have been described as the "next technology frontier" by the Institute of Electrical and Electronics Engineers (IEEE), the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.[3] Neurotechnology describes the field of science and engineering in which the nervous system is interfaced with technical devices, it uses neural interfaces to read or write information into the central nervous system (CNS), the peripheral nervous system (PNS), or the autonomic nervous system (ANS). There are a number of methods to do this, both invasive and noninvasive. Like with most advanced technologies, there are tremendous possibilities:
>
> > Neurotechnologies can provide insights into brain or nervous system activity, or can influence brain or nervous system function. Essentially, neurotechnologies have the potential to help neuroscientists gather information that might help uncover some of the secrets of the biology underlying the normal and pathological functioning of the human brain – arguably the most complex and least understood organ of the human body – as well as delivering practical therapeutic or rehabilitative solutions in the clinical care of neurological disorders to help ease the personal and socioeconomic burden of these conditions. Adopting a technology-based approach can also have benefits for research, allowing the use of more sensitive endpoints that will accelerate data gathering and evidence generation in clinical trials.[4]
>
> The infinite applications are also being explored for consumer products: "Eventually, neurotechnologies could enable commercial devices, like phones, powered by mind control. Neurotechnologies could also potentially enable features like a thought-to-text writing function, or virtual and augmented reality devices assisted by brain control for purposes of entertainment." For example, a few years back, Facebook purchased a neurotechnology startup, as part of efforts to develop a wristband for controlling smartphones, computers and other digital devices without having to touch a screen or keyboard.[5]

---

[3] Neurotechnologies: The Next Technology Frontier, *IEEE Brain*, https://brain.ieee.org/topics/neurotechnologies-the-next-technology-frontier/.
[4] Roongroj Bhidayasiri, "The grand challenge at the frontiers of neurotechnology and its emerging clinical applications," *Front Neurol*, Jan. 17, 2024, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10827995/pdf/fneur-15-1314477.pdf.
[5] Queenie Wong and Scott Stein, "Facebook buys startup working on technology that lets you control computers with your mind," *CNET*, Sep. 23, 2019, https://www.cnet.com/science/facebook-buys-ctrl-labs-to-work-on-a-wristband-that-will-let-you-control-computers-with-your-mind/.

With the emergence of these consumer neurotechnology devices comes not only concern that regulatory oversight is insufficient to, for example, assess efficacy claims, many are sounding alarms around the privacy implications:

> A last bastion of privacy, our brains have remained inviolate, even as sensors now record our heartbeats, breaths, steps and sleep. All that is about to change. An avalanche of brain-tracking devices—earbuds, headphones, headbands, watches and even wearable tattoos—will soon enter the market, promising to transform our lives. And threatening to breach the refuge of our minds.

Tech titans Meta, Snap, Microsoft and Apple are already investing heavily in brain wearables. They aim to embed brain sensors into smart watches, earbuds, headsets and sleep aids. Integrating them into our everyday lives could revolutionize health care, enabling early diagnosis and personalized treatment of conditions such as depression, epilepsy and even cognitive decline. Brain sensors could improve our ability to meditate, focus and even communicate with a seamless technological telepathy—using the power of thoughts and emotion to drive our interaction with augmented reality (AR) and virtual reality (VR) headsets, or even type on virtual keyboards with our minds.

> But brain wearables also pose very real risks to mental privacy, freedom of thought and self-determination. As these devices proliferate, they will generate vast amounts of neural data, creating an intimate window into our brain states, emotions and even memories. We need the individual power to shutter this new view into our inner selves.
>
> Employers already seek out such data, tracking worker fatigue levels and offering brain wellness programs to mitigate stress, via platforms that give them unprecedented access to employees' brains. Cognitive and emotional testing based on neuroscience is becoming a new job screening norm, revealing personality aspects that may have little to do with a job. In China, train conductors of the Beijing-Shanghai line, the busiest of its kind in the world, wear brain sensors throughout their work day. There are even reports of Chinese employees being sent home if their brain activity shows less than stellar brain metrics. As companies embrace brain wearables that can track employees' attention, focus and even boredom, without safeguards in place, they could trample on employee's mental privacy, eroding trust and well-being along with the dignity of work itself.[6]

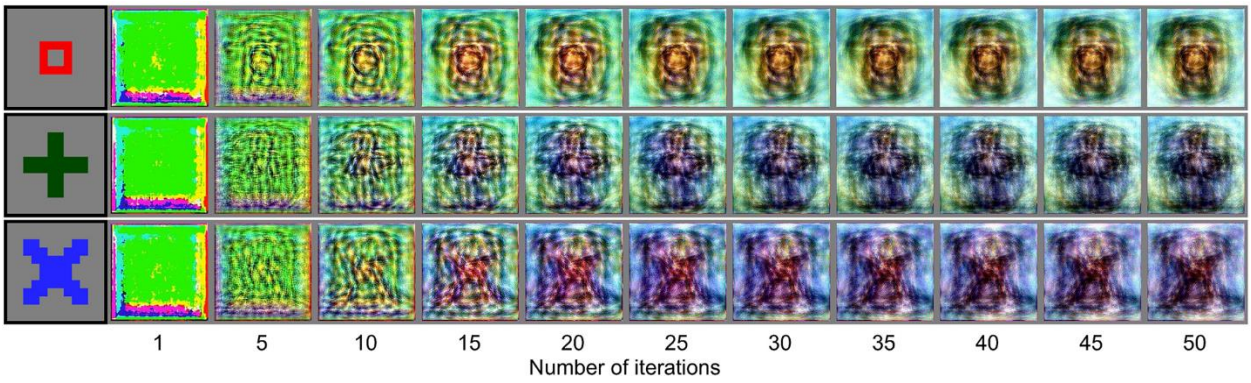
In addition to the above, advances in the field of artificial intelligence over the past few decades have greatly enhanced researchers' ability to analyze and interpret data related to brain activity. A recent research paper published in PLOS Computational Biology summarizes a study performed by the authors:

> While the externalization of states of the mind is a long-standing theme in science fiction, it is only recently that the advent of machine learning-based analysis of functional magnetic resonance imaging (fMRI) data has expanded its potential in the real world . . . Here, we

[6] Nita Farahany, "Wearable Brain Devices Will Challenge Our Mental Privacy," *Scientific American*, Mar. 27, 2023, https://www.scientificamerican.com/article/wearable-brain-devices-will-challenge-our-mental-privacy/.

> present a novel approach, named deep image reconstruction, to visualize perceptual content from human brain activity.[7]

The authors of this paper performed the following experiment: first, subjects were exposed to various images while their brain activity was measured via fMRI. Next, images and corresponding fMRI data were used to train a deep neural network – a type of advanced artificial intelligence model. Finally, the subjects were asked to visualize various shapes while their neural activity was measured. The authors were then able to reconstruct the imagined shapes from the recorded activity.



A similar study was recently performed at University of Texas at Austin, during which the authors developed a decoder capable of reconstructing natural language from fMRI recordings.[8] The study's authors explain:

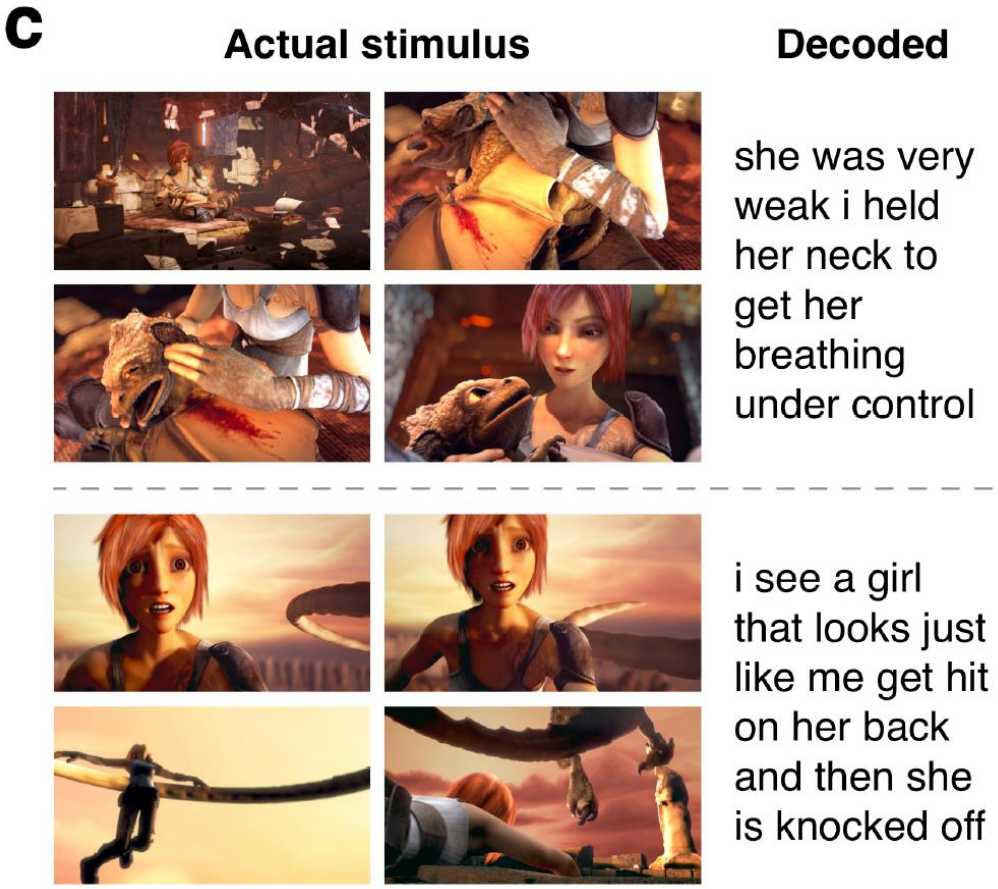
> A brain-computer interface that decodes continuous language from non-invasive recordings would have many scientific and practical applications . . . Here we introduce a non-invasive decoder that reconstructs continuous natural language from cortical representations of semantic meaning recorded using functional magnetic resonance imaging (fMRI). Given novel brain recordings, this decoder generates intelligible word sequences that recover the meaning of perceived speech, imagined speech, and even silent videos, demonstrating that a single language decoder can be applied to a range of semantic tasks.

The authors performed the following experiment: first, a subject was exposed to 16 hours of spoken narrative stories while their brain activity was measured via fMRI. Next, the stories' text and corresponding fMRI data were used to train a model. Finally, the subjects were shown a series of silent short movies while their brain activity was measured via fMRI, and text was predicted from this activity using the trained model. The authors observed that the predicted text often accurately described film events.

---

[7] Guohua Shen, Tomoyasu Horikawa, Kei Majima, and Yukiyasu Kamitani, "Deep image reconstruction from human brain activity," *PLOS Computational Biology*, Jan. 14, 2019, https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1006633.

[8] Jerry Tang, Amanda LeBel, Shailee Jain, and Alexander Huth, "Semantic reconstruction of continuous language from non-invasive brain recordings," *Nature Neuroscience*, May 1, 2023, https://www.nature.com/articles/s41593-023-01304-9.



4) Colorado law. In 2021 the Colorado general assembly enacted Senate Bill 21-190, which established the "Colorado Privacy Act" as part of the "Colorado Consumer Protection Act." These privacy laws were expanded in April of this year by House Bill 24-1058, which amended the definition of "sensitive data" to include "neural data" as follows:

> "NEURAL DATA" MEANS INFORMATION THAT IS GENERATED BY THE MEASUREMENT OF THE ACTIVITY OF AN INDIVIDUAL'S CENTRAL OR PERIPHERAL NERVOUS SYSTEMS AND THAT CAN BE PROCESSED BY OR WITH THE ASSISTANCE OF A DEVICE.

This inspired an earlier version of the current bill, which defined "neural data" in terms of information that could be measured through the use of "neurotechnology":

> (t) "Neural data" means information that is generated by the measurement of the activity of an individual's central or peripheral nervous systems that can be processed by, or with the assistance of, neurotechnology.
>
> (u) "Neurotechnology" means a device, instrument, or a set of devices or instruments, that allows a connection with a person's central or peripheral nervous system for various purposes, including, but not limited to, reading, recording, or modifying a person's brain activity or the information obtained from a person's brain activity.

This definition is somewhat cyclical: neural data is data that can be measured by neurotechnology, and neurotechnology is technology that can measure neural data. Furthermore,

relying on "neurotechnology" to define "neural data" makes this definition a moving target – as technology advances, what qualifies as measurable neural activity will vary from year to year. The current version of the bill simplifies the definition of neural data by eliminating its reliance on the term "neurotechnology."

5) The California Consumer Privacy Act (CCPA) and the California Privacy Rights Act (CPRA.) In 2018, the Legislature enacted the CCPA (AB 375 (Chau, Chap. 55, Stats. 2018)), which gives consumers certain rights regarding their personal information, such as the right to: (1) know what personal information about them is collected and sold; (2) request the categories and specific pieces of personal information the business collects about them; and (3) opt out of the sale of their personal information, or opt in, in the case of minors under 16 years of age.

Subsequently, in 2020, California voters passed Proposition 24, the California Privacy Rights Act (CPRA), which established additional privacy rights for Californians. With the passage of the CCPA and the CPRA, California now has the most comprehensive laws in the country when it comes to protecting consumers' rights to privacy.

In addition, Proposition 24 created the California Privacy Protection Agency in California, vested with full administrative power, authority, and jurisdiction to implement and enforce the CCPA and the CPRA. The Privacy Agency's responsibilities include updating existing regulations, and adopting new regulations.

6) What this bill would do. This bill would define neural data to mean "information that is generated by measuring the activity of a consumer's central or peripheral nervous system, and that is not inferred from nonneural information" for the purposes of the CCPA. This bill would also amend the CCPA's definition of "sensitive personal information" to include neural data.

7) Author's statement:

> The realm of science fiction has become our reality as corporations now possess the capability to gather and commercialize our neural data through consumer-facing neurotechnology. It's imperative that we establish robust safeguards to shield consumers' privacy. I fear a future where vast databases, housing millions of brain scans, may be utilized to gauge an individual's health or even unwillingly identify them.
>
> We're engaged in a rapid race to keep pace with advancing neurotechnology. Consequently, California must initiate regulatory measures within this burgeoning industry.
>
> Fortunately, the California Consumer Privacy Act (CCPA) furnishes a sturdy legal framework for privacy protection and consumer rights. Through the implementation of a few strategic amendments, such as those proposed in SB 1223, we can safeguard Californians' neural data against predatory use.

8) Related legislation. AB 947 (Gabriel, Ch. 551, Stats. 2023) included personal information that reveals a consumer's citizenship or immigration status in the definition of "sensitive personal information" for purposes of the CCPA.

AB 1008 (Bauer-Kahan, 2024) would include abstract digital forms of information, such as encrypted files, compressed files, and the model weights of an artificial neural network, in the

definition of personal information under the CCPA. This bill is currently pending in the Senate Judiciary Committee.

ARGUMENTS IN SUPPORT:

Oakland Privacy writes:

> In the fields of neuroscience and neurotech, there is a lack of consensus regarding the classification of neural data as a form of personal information. For example, Neuralink's privacy policy does not explicitly outline privacy protections for neural data (nor for other biometric data, for that matter). BrainCo (which in 2017 was found to be collecting neural data from over 1 million students without having any privacy policy in place) now states that they collect information about "attention level, head movements, and teachers' voice," among other things. Yet the company still omits information on how California residents can exercise their rights under the CCPA. Although it could be argued that neural data is a secondary form of biometric data, its explicit inclusion under the CCPA is important to provide consumers with the necessary protections.
>
> If left unregulated, neural data can be exploited and be used to manipulate people. Moreover, concerns about scope creep have already been raised: e.g., Australian workers who have their brain activity monitored for fatigue expressed worries that the information would be used for disciplinary purposes by their employer; and in a Chinese classroom, students are monitored for attentiveness and the data collected is used for further research. One sixth grader expressed feeling pressure about how their parents would view their performance reports. We are already seeing people who are being made to wear neural tech in the workplace and classroom - what's to stop these technologies from being forced on others like incarcerated, disabled or incapacitated persons? The fact that neural tech can not only collect personal information but can also alter a person's behavior - perhaps without their consent - makes it especially disturbing.

The American Academy of Neurology writes:

> In recent years, the landscape of neurotechnology has grown substantially within the global marketplace. Innovations such as brain-computer interfaces (BCIs) and neurostimulation devices hold the promise of groundbreaking advancements, spanning from aiding individuals with neurological disabilities to augmenting cognitive abilities. This data is highly sensitive and without adequate safeguards, there is a risk of this data being exploited without the individual's consent.
>
> While the California Consumer Privacy Act (CCPA) raised the bar for data protection standards, its scope falls short of explicitly addressing neural data. As the wearable neurotechnology market expands, this gap in regulation threatens patient privacy, with significant implications for the ethical handling of neural data.

California Medical Association writes:

> In recent years, neurotechnology has become increasingly prevalent in the global marketplace. Devices like brain-computer interfaces (BCIs) and neurostimulation tools promise exciting new possibilities, from assisting individuals with disabilities to enhancing cognitive abilities. However, these technologies also raise significant privacy concerns. One

major worry is the potential for unauthorized access to neural data. BCIs, for instance, interpret neural signals to control external devices or software. This data is highly sensitive, revealing intimate details about an individual's thoughts, emotions, and intentions. Without adequate safeguards, there is a risk of this data being exploited without the individual's consent.

ARGUMENTS IN OPPOSITION:

TechNet writes on behalf of a coalition of industry trade associations:

> We have a concern about the breadth of technologies that could be included under the definitions of "neural data" and "neurotechnology" and have suggested amendments to tailor them to technologies that directly measure brain activity.
>
> The fundamental challenge with the existing definitions is that they include references to the "peripheral nervous system" ("PNS") – all nerves in parts of the body other than the brain and spinal cord. There are two problems with these references. First, information about activity of the PNS simply is not capable of revealing someone's inner thoughts and mental processes, which this bill seeks to protect. Those result from activity of the brain, not the PNS. Many scientists argue that even information about brain activity does not and will not permit decoding complex thoughts, and recent research has described attempts to argue otherwise as alarmist.
>
> Second, regulating activity of the PNS would sweep too broadly and ensnare nearly any technology that records anything about human behavior, because all outwardly observable human behavior results from activity of the PNS. Every time you speak, move, or perform any other action, your central nervous system sends signals to the PNS, which then brings about the action, such as by stimulating your muscles. This means that any measurement of outwardly observable human behavior could be deemed a "measurement of the activity" of the PNS.
>
> As a result, the definitions of "neural data" and "neurotechnology" would ensnare vast swaths of technology that have nothing to do with mental privacy. For example, they could mean that any data about how someone moves a mouse is sensitive, because, to move a mouse, someone's brain sends a signal to the nerves in their hand, part of the PNS. As another example, it would disincentivize innovation in vehicular safety features, such as systems that monitor drivers' eye movements and body positions to detect fatigue. Both of those kinds of data could be considered measurements of the activity of the PNS.

REGISTERED SUPPORT / OPPOSITION:

Support

Neurorights Foundation (sponsor)
American Academy of Neurology
California Medical Association (CMA)
Oakland Privacy
Perk Advocacy

Oppose Unless Amended

California Chamber of Commerce
Computer & Communications Industry Association
TechNet-technology Network

Analysis Prepared by: Slater Sharp / P. & C.P. / (916) 319-2200