IN THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

NETCHOICE, LLC,

Plaintiff-Appellee,

v.

ROB BONTA, IN HIS OFFICIAL CAPACITY AS ATTORNEY GENERAL OF THE STATE OF CALIFORNIA,

Defendant-Appellant.

On Appeal from the United States District Court for the Northern District of California No. 5:22-cv-08861-BLF Hon. Beth Labson Freeman, Judge

MOTION FOR LEAVE TO FILE AMICUS BRIEF OF THE CENTER FOR HUMANE TECHNOLOGY IN SUPPORT OF DEFENDANT-APPELLANT

MATTHEW P. BERGMAN
PATRICK STRECKERT
SOCIAL MEDIA VICTIMS LAW CENTER
600 1ST Ave, Suite 102 – PMB 2383
Seattle, WA 98101
(206) 741-4862

Email: matt@socialmediavictims.org Email: patricks@socialmediavictims.org

MOTION FOR LEAVE TO FILE AMICUS BRIEF OF THE CENTER FOR HUMANE TECHNOLOGY SUPPORTING DEFENDANT-APPELLANT

Pursuant to Federal Rule of Appellate Procedure 29(a)(3) and Circuit Rules 29-2 and 29-3, the Center for Humane Technology ("CHT") respectfully seeks leave to file the attached amicus brief supporting Defendant-Appellant Rob Bonta in his official capacity as Attorney General of the State of California.

The parties have consented to the filing, and this motion is unopposed. In support of this motion, CHT states that it is a 501(c)(3) organization dedicated to advocating for comprehensive reform at the state and federal levels to ameliorate the profound consequences that Advanced Digital Technology products continue to inflict on individuals and communities. CHT has a strong interest in supporting legislation such as the California Age-Appropriate Design Code Act that protects children's privacy and safety online by incentivizing better product design and development.

CHT's brief is desirable and relevant to the disposition of the case because it provides contextual information concerning Advanced Digital Technology that explains the errors in the panel's opinion.

Because the motion is unopposed and because the brief will assist the Court, this motion should be granted and the attached brief filed.

DATED: December 20, 2023.

Respectfully submitted,

/s/ Matthew P. Bergman
MATTHEW P. BERGMAN
PATRICK STRECKERT
SOCIAL MEDIA VICTIMS LAW CENTER
600 1ST Ave, Suite 102 – PMB 2383
Seattle, WA 98101
(206) 741-4862

CERTIFICATE OF SERVICE

I hereby certify that on December 20, 2023, I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the appellate CM/ECF system. I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

/s/ Matthew P. Bergman

MATTHEW P. BERGMAN

PATRICK STRECKERT

SOCIAL MEDIA VICTIMS LAW CENTER
600 1ST Ave, Suite 102 – PMB 2383

Seattle, WA 98101
(206) 741-4862

IN THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

NETCHOICE, LLC,

Plaintiff-Appellee,

v.

ROB BONTA, IN HIS OFFICIAL CAPACITY AS ATTORNEY GENERAL OF THE STATE OF CALIFORNIA,

Defendant-Appellant.

On Appeal from the United States District Court for the Northern District of California No. 5:22-cv-08861-BLF Hon. Beth Labson Freeman, Judge

BRIEF AMICUS CURIAE OF THE CENTER FOR HUMANE TECHNOLOGY IN SUPPORT OF DEFENDANT-APPELLANT

MATTHEW P. BERGMAN
PATRICK STREKERT
600 1ST Ave, Suite 102 – PMB 2383
SOCIAL MEDIA VICTIMS LAW CENTER
Seattle, WA 98101
(206) 741-4862
Email: matt@socialmediaviotims.org

Email: matt@socialmediavictims.org Email: patricks@socialmediavictims.org

CORPORATE DISCLOSURE STATEMENT

The Center for Humane Technology is a 501(c)(3) non-profit organization incorporated in California. It has no parent corporation and does not issue stock.

TABLE OF CONTENTS

CORPO	RATE DISCLOSURE STATEMENT	ii
TABLE	OF CONTENTS	iii
TABLE	OF AUTHORITIES	iv
STATEN	MENT OF INTEREST	1
GLOSSA	ARY OF ESSENTIAL TERMS	3
INTROE	DUCTION	7
ARGUM	IENT	10
	ne Act Seeks to Ameliorate the Clear and Present Danger to Children	
A.	Unregulated Social Media is Harmful to Children	10
В.	Conventional Regulatory Approaches Cannot Protect Children Fro Harm Caused by Rapid Evolution of Advanced Digital Technolog	
C.	The Act's Technology-Neutral Scope is a Bulwark Against Obsolescence.	23
	ne District Court Erred in Holding that the Act Violated the First mendment	24
A.	The Act Regulates Product Design, Not Protected Speech	24
В.	Outputs of AI-Driven Advanced Digital Technologies Are Not Speech.	27
CONCL	USION	29
CERTIF	ICATE OF COMPLIANCE	31
CERTIF	ICATE OF SERVICE	32

TABLE OF AUTHORITIES

Page	(S)
Cases	
Barr v. American Assn. of Political Consultants, Inc., 140 S. Ct. 2335 (2020)	27
Brown v. Entm't Merchs. Ass'n, 564 U.S. 786 (2011)	29
Citizens United v. FEC, 558 U.S. 310 (2010)	28
CTIA - The Wireless Ass'n v. City of Berkeley, 928 F.3d 832 (9th Cir. 2019)	24
Interpipe Contracting, Inc. v. Becerra, 898 F.3d 879 (9th Cir. 2018)	8
Lemmon v. Snap, Inc., 995 F.3d 1085 (9th Cir. 2021)	25
Lochner v. New York, 198 U.S. 45 (1905)	, 8
Mobilize the Message, LLC v. Bonta, 50 F.4th 928 (9th Cir. 2022), cert. denied, 143 S. Ct. 2639 (2023)	24
Nat'l Inst. of Family & Life Advocates v. Becerra, 138 S. Ct. 2361 (2018)	24
Reed v. Town of Gilbert, 576 U.S. 155 (Breyer, J., concurring)	27
W. Coast Hotel Co. v. Parrish, 300 U.S. 379 (1937)	7
W. Va. State Bd. of Educ. v. Barnette, 319 U.S. 624 (1943)	27

Statutes

Age-Appropriate Design Code Act	passim
Cal. Civ. Code §§ 1798.99.28-1798.99.40	8
Occupational Safety and Health Act	25
Other Authorities	
16 C.F.R. § 1500.19(b)	25
21 C.F.R. § 201.100(d)	25
29 C.F.R. § 1910.1001(j)	25
Fed. R. App. P. 29	1, 2
Adam Zewe, <i>Unpacking the "black box" to build better AI models</i> , MIT News (Jan. 8, 2023), https://news.mit.edu/2023/stefanie-jegelka-machine-learning-0108	21
Aishwarya Dudha, <i>Scammers can easily use voice-cloning AI to con family members</i> , CBC News (June 18, 2023) https://www.cbc.ca/news/canada/saskatoon/fraudsters-likely-using-ai-to-scam-seniors-1.6879807	14
Algorithms and Amplification: How Social Media Platforms' Design Choices Shape Our Discourse and Our Minds, Tech Policy (Apr. 27, 2021) https://www.techpolicy.press/opening-testimonies-algorithms-and-amplification-how-social-media-platforms-design-choices-shape-our-discourse-and-our-minds/	5
Bob Violino, <i>AI tools such as ChatGPT are generating a mammoth increase in malicious phishing emails</i> , CNBC (Nov. 28, 2023), https://www.cnbc.com/2023/11/28/ai-like-chatgpt-is-creating-huge-increase-in-malicious-phishing-email.html#:~:text=Technology%20Executive%20Council-,AI%20tools%20such%20as%20ChatGPT%20are%20generating,increase%20in%20malicious%20phishing%20emails&text=Since%20the%20fourth%20quarter%20of,report%20by%20cybersecurity%20firm%20SlashNext	14

Christine Lai and Dr. Jonathan Spring, Software Must Be Secure by Design, and Artificial Intelligence Is No Exception, Cybersecurity and Infrastructure Security Agency (Aug. 18, 2023), https://www.cisa.gov/news-events/news/software-must-be-secure-design-and-artificial-intelligence-no-exception	21
Conor Murray, U.S. Data Privacy Protection Laws: A Comprehensive Guide, Forbes (Apr. 25 2023), https://www.forbes.com/sites/conormurray/2023/04/21/us-data-privacy-protection-laws-a-comprehensive-guide/?sh=114717325f92	22
Courts Are Choosing TikTok Over Children, The Atlantic (Dec. 19, 2023), https://www.theatlantic.com/ideas/archive/2023/12/netchoice-v-bonta-california-case-social-media-children/676351/?utm_source=ground.news&utm_medium=referra 1	9
David Nield, How ChatGPT and Other LLMs Work—and Where They Could Go Next, WIRED (Apr. 30, 2023), https://www.wired.com/story/how-chatgpt-works-large-language-model/ (last visited Dec. 20, 2023)	19
Emily A. Vogels et al., <i>Teens, Social Media and Technology 2022</i> , Pew Research Center (Aug. 10, 2022), https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/	13
Evolving Technological Landscape, Jones Day (June 2023), https://www.jonesday.com/en/insights/2023/06/trade-secrets-and-generative-ai	22
FTC Proposes Strengthening Children's Privacy Rule to Further Limit Companies' Ability to Monetize Children's Data, Federal Trade Commission (Dec. 20, 2023), https://www.ftc.gov/news-events/news/press-releases/2023/12/ftc-proposes-strengthening-childrens-privacy-rule-further-limit-companies-ability-monetize-childrens	22
Helen Norton, <i>Manipulation and the First Amendment</i> , 30 Wm. & Mary Bill Rts. J. 221, 223 (2021)	28

Jacob Knutson, How AI is helping scammers target victims in "sextortion" schemes, Axios (Jun. 23, 2023), https://www.axios.com/2023/06/23/artificial-intelligence-sexual-exploitation-children-technology	15
Jean M. Twenge et al., Specification Curve Analysis Shows that Social Media Use Is Linked to Poor Mental Health, Especially Among Girls 8-10 (Acta Psychologica, Apr. 2022 Art. No. 103512), https://www.sciencedirect.com/science/article/pii/S000169182200 0270	10
Jean M. Twenge & W. Keith Campbell, <i>Media Use Is Linked to Lower Psychological Well-Being: Evidence from Three Datasets</i> , 90 Psychol. Q. 311 (2019)	11
Jeffrey Edell, Social Media Must Move Beyond a Broken Ad Revenue Business Model, Rolling Stone (Dec. 8, 2023)	12
Jessica Newman, <i>Explainability won't save AI</i> , Brookings (May 19, 2021), https://www.brookings.edu/articles/explainability-wont-save-ai/	6
Jon Haidt, Social Media is a Major Cause of the Mental Illness Epidemic in Teen Girls. Here's the Evidence, After Babel (Feb. 22, 2023) https://www.afterbabel.com/p/social-media-mental-illness-epidemic	13
Jon Haidt, <i>The Teen Mental Illness Epidemic Began Around 2012</i> , After Babel (Feb 8, 2023), https://www.afterbabel.com/p/the-teen-mental-illness-epidemic	13
Katie Paul, Former Meta employee tells Senate company failed to protect teens' safety, Reuters (Nov. 7, 2023)	11
Lisa Schirch et al., <i>Toward Prosocial Tech Design Governance</i> , Tech Policy (Dec. 14, 2023), https://www.techpolicy.press/toward-prosocial-tech-design-governance/ (last visited Dec. 20, 2023)	17, 19
Matt O'Brien & Haleluya Hadero, <i>AI image-generators are being trained on explicit photos of children, a study shows</i> , Associated Press (Dec. 20, 2023), https://apnews.com/article/generative-ai-illegal-images-child-abuse-3081a81fa79e2a39b67c11201cfd085f	15

Michael R. Siebecker, <i>The Incompatibility of Artificial Intelligence</i> and Citizens United, 83 Ohio St. L.J. 1211, 1218 (2022)	29
Regulations, Mandatory Standards and Bans, Consumer Product	
Safety Commission, https://www.cpsc.gov/Regulations-Laws	
Standards/Regulations-Mandatory-Standards-Bans	26
Sebastian Krügel et al., ChatGPT's inconsistent moral advice	
influences users' judgment, Nature (Apr. 6, 2023),	
https://www.nature.com/articles/s41598-023-31341-0	20
Stuart Russell et al., <i>Updates to the OECD's definition of an AI system explained</i> , OECD (Nov. 29, 2023), https://oecd.ai/en/wonk/ai-	
system-definition-update	4, 5
Tim Wu, Machine Speech, 161 U. Pa. L. Rev. 1495, 1496 (2013)	28
What is artificial intelligence (AI), IBM,	
https://www.ibm.com/topics/artificial-intelligence	3, 20

STATEMENT OF INTEREST¹

The Center for Humane Technology ("CHT") is a non-profit organization that promotes technology that strengthens individual and social well-being, global democratic functioning, and a shared information environment. CHT's mission is to align technology with humanity's best interests. It focuses on producing perspective-shifting media to sound the alarm on technology's impacts on people, including the widely acclaimed documentary *The Social Dilemma*. CHT partners with organizations and allies to pursue strategic solutions across the public, private, and philanthropic sectors and provides practical resources that empower leaders to take bold, coordinated action.

CHT advocates for comprehensive reform at the state and federal levels to ameliorate the profound consequences that Advanced Digital Technology products continue to inflict on individuals and communities. Overwhelming evidence indicates that child-targeted online marketing practices—including manipulative and addictive digital design methods—undermine healthy human development. CHT has a strong interest in supporting legislation such as the California Age-

¹ In accordance with Fed. R. App. P. 29(a)(4)(E), CHT's counsel authored this brief in whole; neither a party nor a party's counsel contributed money intended to fund preparing or submitting the brief; and no person other than CHT, its members, or its counsel contributed money intended to fund this brief's preparation or submission. The parties have consented to the filing of this brief.

Appropriate Design Code Act that protects children's privacy and safety online by incentivizing better product design and development.

GLOSSARY OF ESSENTIAL TERMS

The computer revolution and the advent of Advanced Digital Technologies have not only transformed social and economic life but created an entirely new lexicon of technological terms. The following definitions are widely debated within the industry; they are offered as guideposts for the Court's analysis of the constitutional and regulatory questions at issue in this appeal:

- Advanced Digital Technology: "Advanced Digital Technology" is a broad and evolving term that encompasses various cutting-edge digital technologies at the forefront of innovation with the potential to significantly impact our economic, political, and social institutions. This brief uses this term to refer to technologies powered by data and code, such as social media and Artificial Intelligence (e.g., generative AI, and large language models).
- Artificial Intelligence (AI): Artificial Intelligence is a multidisciplinary branch of computer science that is dedicated to creating systems capable of tasks that would normally require human cognition—this can include problem-solving, pattern recognition, learning, and data analysis. The degrees of autonomy and adaptability differ across AI Systems.²

3

² See generally What is artificial intelligence (AI)?, IBM, https://www.ibm.com/topics/artificial-intelligence (last visited Dec. 18, 2023).

- AI System: An AI System is a machine-based system that utilizes algorithms to process input data in order to produce outputs, such as predictions, recommendations, or decisions influencing physical or virtual environments.³ AI Systems are composed of data and algorithms. AI Systems can be standalone systems, such as GPT4, or they can underly a consumer-facing application, such as ChatGPT. Many of today's commonly available technology products, such as Instagram, YouTube, TikTok, ChatGPT, and SnapChat MyAI, are powered by AI Systems.
- Algorithms/Code: Algorithms and computer code are related concepts.

 Algorithms are sets of instructions that dictate how to solve a problem or accomplish a task. Ranging from simple to incredibly intricate, these algorithms determine the operational functionality of many AI Systems.⁴

 Computer code, often referred to as source code, is a set of instructions written in a specific programming language. It is a concrete representation of an algorithm that a computer can execute.

³ See generally Stuart Russell et al., Updates to the OECD's definition of an AI system explained, OECD (Nov. 29, 2023), https://oecd.ai/en/wonk/ai-system-definition-update (last visited Dec. 20, 2023).

⁴ See id.

- **Data:** Data serves as the bedrock for any Advanced Digital Technology. "Data" refers to the raw facts, statistics, or informational elements that are processed and analyzed by an algorithm for learning and decision-making.

 Data can take many forms, including numbers, words, images, and more.⁵
- **Digital Product Design:** Digital Product Design holistically considers how a product's features, protocols, data architecture, and the underlying code work together to create a product. Digital product design determines everything from how a digital product looks to how we interact with it. It encompasses the design of user interfaces and interactions, as well as the architecture, protocols, and code that underlie the product. While user-facing features are a crucial part of design, digital product design also considers the invisible infrastructure—protocols, data architecture, and code—that determines how the product works.⁶
- Machine Learning: A subset of AI, Machine Learning involves enabling AI Systems to learn from the input data and improve over time, all without

⁵ See id. (explaining that AI Systems are no longer restricted to processing numerical data, but images and "other complex data types").

⁶ See generally, Justin Hendrix, Opening testimonies- Algorithms and Amplification: How Social Media Platforms' Design Choices Shape Our Discourse and Our Minds, Tech Policy (Apr. 27, 2021) https://www.techpolicy.press/opening-testimonies-algorithms-and-amplification-how-social-media-platforms-design-choices-shape-our-discourse-and-our-minds/ (last visited Dec. 20, 2023).

explicit programming. Machine Learning underpins many modern AI Systems, powering capabilities such as recommendations and predictions.⁷

⁷ See, e.g., Jessica Newman, Explainability won't save AI, Brookings (May 19, 2021), https://www.brookings.edu/articles/explainability-wont-save-ai/ (last visited Dec. 18, 2023).

INTRODUCTION

At the dawn of the 20th Century, the New York legislature, in the exercise of its police power, passed legislation to protect vulnerable workers from being exploited by the unscrupulous labor practices that emerged during the Industrial Revolution. In *Lochner v. New York*, 198 U.S. 45 (1905), the Supreme Court substituted the policy judgment of the state legislature with a rigid application of 19th-century freedom of contract doctrine with callous indifference to the inherent economic and social inequalities that industrialization had created. Justice Holmes castigated his judicial colleagues for contorting constitutional principles to stifle state regulation of health and safety.

This case is decided upon an economic theory which a large part of the country does not entertain. If it were a question whether I agreed with that theory I should desire to study it further and long before making up my mind. But I do not conceive that to be my duty, because I strongly believe that my agreement or disagreement has nothing to do with the right of a majority to embody their opinions in law. . . [S]tate laws may regulate life in many ways which we, as legislators, might think as injudicious, or, if you like, as tyrannical . . . and . . . interfere with the liberty to contract . . . The Fourteenth Amendment does not enact Mr. Herbert Spencer's *Social Statics*. . . .

Id. at 75 (Holmes, J., dissenting).

Lochner's absolutism was ultimately rejected by the Supreme Court because freedom of contract "is a qualified and not an absolute right" that does not confer "immunity from reasonable regulations and prohibitions imposed in the interests of the community." W. Coast Hotel Co. v. Parrish, 300 U.S. 379, 392 (1937) (cleaned

up). However, *Lochner*'s legacy endures as a prescient reminder of how cherished constitutional doctrines can be subverted by entrenched interests to thwart states' ability to protect the health and safety of their citizens. This appeal represents an example of such judicial overreaching by the district court.

At the dawn of the 21st century, the Digital Revolution has been as disruptive to social, political, and economic relationships (and individual well-being) as the Industrial Revolution was in the early 20th century. Advanced Digital Technologies have been particularly destructive to the physical and mental health of young people. In the exercise of its police power, the California State Legislature enacted the Age-Appropriate Design Code Act ("the Act") to protect children from the well-documented physical and mental health harms caused by Advanced Digital Technologies. *See* Cal. Civ. Code §§ 1798.99.28-1798.99.40. The California State Legislature reasonably concluded that due to the unique characteristics of Advanced Digital Technologies, the only effective approach to regulating these Technologies would be to regulate their design by regulating their data and code.

With striking parallels to *Lochner*, the district court enjoined the State of California from its "legitimate exercise[] of state authority to protect the general health and welfare." *Interpipe Contracting, Inc. v. Becerra*, 898 F.3d 879, 896 (9th Cir. 2018). The district court misapplied First Amendment doctrine to 21st-century Advanced Digital Technologies, ignoring the broader reality of how technological

products operate and inflict mental and physical harm on vulnerable children.⁸ The district court failed to recognize that the only way to protect vulnerable kids from Advanced Digital Technologies is to regulate their data and code with forward-looking regulatory schemes focused on requiring safe digital designs rather than outcome-based regulations destined to quickly become obsolete.

Contrary to the district court's analysis, the Act does not encroach upon the freedom of expression enshrined in the First Amendment. The outputs of AI-driven Advanced Digital Technologies are not "speech," and the Act simply regulates the design of digital products, the code that builds them, and the data that fuels them. In its sovereign capacity, the State of California has the power to enact and enforce such prudent regulations to ensure that digital products, services, and features mitigate the harms they pose to children. Whether regulating unscrupulous labor practices, ensuring safety through stringent building design codes, or now in the digital landscape, the core principle remains the same: the State of California has the authority—indeed the *obligation*—to enact and enforce regulations that ensure safety and general welfare, adapting to new contexts and challenges as they arise.

-

⁸ See Tim Wu, Courts Are Choosing TikTok Over Children, The Atlantic (Dec. 19, 2023), https://www.theatlantic.com/ideas/archive/2023/12/netchoice-v-bonta-california-case-social-media-

children/676351/?utm_source=ground.news&utm_medium=referral (last visited Dec. 20, 2023) (concluding that the district court's decision "is an abysmal decision almost certain to be remembered as having landed on the wrong side of history").

The district court's hidebound application of the First Amendment severely constrains States' ability to exercise their traditional police powers to craft and enforce forward-looking regulations, particularly in the face of advancing technologies built using data and code. The district court gave insufficient deference to the California legislature's policy judgments and technological expertise, sacrificing duly elected legislators' reasoned judgment in favor of the self-interested interpretation of a cherished right put forth by the companies who stand to profit most from harming children. The unregulated design and unchecked release of Advanced Digital Technologies, whether they be social media or more nascent AI products, present profound implications for public welfare and the mental well-being of our youth. Affirmance of the district court would dramatically impede states' ability to adopt and enforce measures to address the human health and welfare harms presented by an evolving digital landscape.

ARGUMENT

I. The Act Seeks to Ameliorate the Clear and Present Danger to Children Caused by Advanced Digital Technologies

A. Unregulated Social Media is Harmful to Children

The relationship between teens' social media use and other severe mental health harms is accepted among behavioral health researchers.⁹ In fact, in May

10

⁹ See, e.g., Jean M. Twenge et al., Specification Curve Analysis Shows that Social Media Use Is Linked to Poor Mental Health, Especially Among Girls 8-10 (Acta

2023, United States Surgeon General Vivek Murthy issued a second Advisory warning of a mental health crisis among children and young adults caused in part by their overuse of social media. The Surgeon General reported:

We must acknowledge the growing body of research about potential harms, increase our collective understanding of the risks associated with social media use, and urgently take action to create safe and healthy digital environments that minimize harm and safeguard children's and adolescents' mental health and well-being during critical stages of development.

U.S. SURGEON GEN., ADVISORY: Social Media and Youth Mental Health 4 (2023).

Social media not only subjects kids to mental and physical health harm but also increases their exposure to sexual predators. In November 2023, it was reported that internal data revealed that 51% of Instagram users had reported having a bad or harmful experience on the platform in the past seven days and that 24.4% of children aged 13-15 had reported receiving unwanted sexual advances.¹⁰

Psychologica, Apr. 2022 Art. No. 103512) https://www.sciencedirect.com/science/article/pii/S0001691822000270; Jean M. Twenge & W. Keith Campbell, *Media Use Is Linked to Lower Psychological Well-Being: Evidence from Three Datasets*, 90 Psychol. Q. 311 (2019) (discussing how

heavy users of digital media are more likely to be unhappy, depressed, or have attempted suicide).

¹⁰ Katie Paul, Former Meta employee tells Senate company failed to protect teens' safety, Reuters (Nov. 7, 2023), https://www.reuters.com/technology/cybersecurity/former-meta-employee-tells-senate-company-failed-protect-teens-safety-2023-11-

There can be no doubt that this distressing situation is neither a fortuitous occurrence nor a mere happenstance. The deleterious impact of social media on our youth emanates from how these products are intentionally designed with the purpose of maximizing children's online engagement. Social media companies create products intended to be addictive to children, using deceptive designs and AI Systems to both collect and leverage children's personal information in order to predict—in real time—what will inhibit a child's ability to look away based on known vulnerabilities in human psychology and neurology. These digital products are known—even *intended*—to foster problematic use and addict children. With data feeding the algorithms instructed with code to engage users, such designs continuously and autonomously pull psychological levers to captivate as much of children's attention as possible, confining them to the screen in the name of profit. Such designs often lack default privacy and other protections appropriate for children because such safeguards would make children's social media use less Moreover, the same harms caused by the design of social media

^{07/#:~:}text=In%20one%202021%20email%2C%20Bejar,reported%20receiving%20unwanted%20sexual%20advances (last visited Dec. 20, 2023).

¹¹ See Jeffrey Edell, Social Media Must Move Beyond a Broken Ad Revenue Business Model, Rolling Stone (Dec. 8, 2023), https://www.rollingstone.com/culture-council/articles/social-media-must-move-beyond-broken-ad-revenue-business-model-1234919543/ (last visited Dec. 20, 2023) (noting that, in order to "increase"

products will worsen and likely expand with new AI Systems and upcoming Advanced Digital Technologies.

As AI continues to be more deeply integrated into social media, children will continue to suffer serious harm. Children, already prone to social media addiction due to their brain development and social pressures, will be more affected. The increase in teen mental health problems since 2012 aligns with the shift from basic phones to smartphones with social media apps. And studies suggest social media is the main driver of this crisis. Children's internet use has grown dramatically in recent years. In 2022, 95% of teens had smartphone access—up from 73% in 2014-15. And 58% of teens use TikTok daily, some almost non-stop, and nearly half of teens report that they use the internet "almost constantly." AI Systems are

ad revenue and profit, [social media companies] need users, including children, to spend more time on their platforms so they can serve even more ads").

¹² Jon Haidt, *The Teen Mental Illness Epidemic Began Around 2012*, After Babel (Feb 8, 2023), https://www.afterbabel.com/p/the-teen-mental-illness-epidemic (last visited Dec. 20, 2023).

¹³ Jon Haidt, Social Media is a Major Cause of the Mental Illness Epidemic in Teen Girls. Here's the Evidence, After Babel (Feb. 22, 2023) https://www.afterbabel.com/p/social-media-mental-illness-epidemic (last visited Dec. 20, 2023).

¹⁴ Emily A. Vogels et al., *Teens, Social Media and Technology 2022*, Pew Research Center (Aug. 10, 2022), https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/ (last visited Dec. 20, 2023).

¹⁵ *Id*.

already making these platforms even more addictive for children, as AI can generate even more engaging content or features (like beautification filters)."

AI presents an array of risks for children that are as insidious as they are invisible. Malicious actors, wielding AI as their tool, can craft highly convincing phishing schemes. ¹⁶ These AI-powered deceptions can impersonate friends or family, luring children into sharing sensitive information, or clicking on malicious links. ¹⁷ Even more disturbing is the prospect of automated grooming, where AI chatbots mimic human interaction, slowly eroding a child's defenses and manipulating them into dangerous situations.

The cloak of anonymity online allows for relentless automated bullying, with AI-driven entities targeting and tormenting vulnerable youths. Moreover, the pervasive reach of AI extends into privacy breaches. Sophisticated algorithms

¹⁶ See Bob Violino, AI tools such as ChatGPT are generating a mammoth increase in malicious phishing emails, CNBC (Nov. 28, 2023), https://www.cnbc.com/2023/11/28/ai-like-chatgpt-is-creating-huge-increase-in-malicious-phishing-email.html#:~:text=Technology%20Executive%20Council-,AI%20tools%20such%20as%20ChatGPT%20are%20generating,increase%20in%20malicious%20phishing%20emails&text=Since%20the%20fourth%20quarter%20of,report%20by%20cybersecurity%20firm%20SlashNext (last visited Dec. 20, 2023).

¹⁷ See Aishwarya Dudha, Scammers can easily use voice-cloning AI to con family members, CBC News (June 18, 2023) https://www.cbc.ca/news/canada/saskatoon/fraudsters-likely-using-ai-to-scamseniors-1.6879807 (last visited Dec. 20, 2023).

scrape social media, piecing together detailed profiles of young users, often without consent. This unchecked data collection is exacerbated by AI surveillance tools that track not just digital footprints but also physical movements, encroaching on personal freedoms and privacy interests.

Furthermore, AI's ability to fabricate age and identities opens doors to predatory behaviors, with imposters breaching child-safe digital zones. Perhaps most alarming is the use of AI for sextortion, programming chatbots to coerce and blackmail children into compromising situations. Some image-generating AI Systems are even trained on explicit photos of children—in addition to an abhorrent privacy violation, it makes the use of these systems to generate deep fake child porn or to sextort children that much easier. These risks underscore the urgent need for robust safeguards and a reevaluation of the intersection between children and the building blocks of the technologies they are interacting with daily.

In the past year, especially after the public release and rapid adoption of ChatGPT, there has been broad, bipartisan agreement among policymakers that the

¹⁸ See Jacob Knutson, How AI is helping scammers target victims in "sextortion" schemes, Axios (Jun. 23, 2023), https://www.axios.com/2023/06/23/artificial-intelligence-sexual-exploitation-children-technology (last visited Dec. 20, 2023).

¹⁹ See Matt O'Brien & Haleluya Hadero, *AI image-generators are being trained on explicit photos of children, a study shows*, Associated Press (Dec. 20, 2023), https://apnews.com/article/generative-ai-illegal-images-child-abuse-3081a81fa79e2a39b67c11201cfd085f (last visited Dec. 20, 2023).

same mistakes we made with social media cannot be repeated with AI. Despite overwhelming public and policymaker support for protecting kids online, the Act has been called into question for its novel, forward-looking approach to regulation that would ensure a more robust and adaptive regulatory ecosystem in the face of advancing technologies.

B. Conventional Regulatory Approaches Cannot Protect Children From Harm Caused by Rapid Evolution of Advanced Digital Technologies.

Advanced Digital Technologies include an array of cutting-edge technologies, each with the potential to impact our economic, political, and social institutions significantly. Navigating the reform of Advanced Digital Technologies poses a formidable challenge because of the rapid pace of their evolution—a phenomenon known as a "complexity gap." Because Advanced Digital Technologies advance much faster than most people can understand them, conventional regulatory approaches must play a constant game of catch-up, quickly rendering such approaches obsolete. To bridge this divide, the Center for Humane Technology, along with many other experts within the field, has advised policymakers to focus on regulating digital product design as a more effective way

to guide the safe development of digital products.²⁰

These Advanced Digital Technologies, though diverse, are unified by their foundational elements: data and code. Whether it's the data-hungry algorithms at the core of AI Systems, the recommendation engines embedded within social media, or sophisticated large language models like GPT-4, each system learns and evolves based on the data it consumes. Notably, digital platforms—giants in data aggregation like Facebook, Instagram, and ChatGPT—leverage powerful machine learning to refine their algorithms in a self-enhancing cycle, thereby amplifying their capabilities.

A decade's worth of research into social media's impacts has revealed the adverse consequences of these data-driven technologies. AI Systems carry with them the potential to dramatically magnify these known harms. While nobody can predict how exactly Advanced Digital Technologies, like AI Systems, will evolve in years to come, one thing is certain: such technologies will share the same underlying foundation—a set of code that instructs the technology and endless data that informs its black-box decision-making. Indeed, the underlying architecture of code and data will continue to be the bedrock of these technologies. It is imperative,

_

²⁰ See, e.g., Lisa Schirch et al., *Toward Prosocial Tech Design Governance*, Tech Policy (Dec. 14, 2023), https://www.techpolicy.press/toward-prosocial-tech-design-governance/ (last visited Dec. 20, 2023).

therefore, that States be allowed to steer their regulatory efforts toward the very building blocks of digital design.

A characteristic of many Advanced Digital Technologies—including AI systems and social media—is that they cannot always be disassembled into component parts that can be analyzed. Colloquially, such technologies are known as "black boxes." Furthermore, many Advanced Digital Technologies, including AI Systems, operate probabilistically, not volitionally. AI Systems, for example, function primarily by taking in large sets of data, often taken from sites across the internet and using these datasets to "train" an AI model. Many of today's leading AI Systems are often built without a singular purpose in mind, but rely on the data and code that make up the designs of these technologies to find statistical patterns and determine outputs.

In the case of AI prediction tools, these models are built using historical data to predict future events. AI recommender systems, technology types used to keep users engaged on social media, operate similarly. Based on a user's engagement with different types of content, the recommender system will predict the user's likelihood to engage with new content, adjusting the user experience accordingly. Importantly, these decisions are made based not on the content itself but on certain factors tied to user behavior, such as how many views, likes, comments, or reshares something received.

Generative AI Systems (like ChatGPT) operate in a similar fashion, operating by decoding the cryptic patterns nestled within their training datasets.²¹ In essence, generative AI is programmed to sift through data, learn from connections in the data, and make predictions based on pattern matching.²² Predicting the pairing of questions and answers, generative AI Systems navigate data landscapes far removed from human understanding. This is often what makes them powerful—they can be used to identify correlations human beings miss. Indeed, these AI Systems can uncover patterns cloaked in the impenetrable fabric of complex data otherwise invisible to the human eye, all while maintaining an uncanny brevity and speed. On the other hand, the unique design of AI Systems is also what makes them detrimental if left unchecked.

Because these systems are probabilistic, the exact same input can cause a generative AI System to generate wildly different outputs. An AI chat tool, such as ChatGPT, takes text from a user's "prompt" as input and then generates text as an output by using probability to predict what words are most likely to be strung together. The system's prediction is based on a training dataset that it can cross-

_

²¹ See id. (noting that generative AI Systems merely "generate statistically probable outputs when prompted").

²² See, e.g., David Nield, How ChatGPT and Other LLMs Work—and Where They Could Go Next, WIRED (Apr. 30, 2023), https://www.wired.com/story/how-chatgpt-works-large-language-model/ (last visited Dec. 20, 2023).

reference in making its predictions. What makes a system like ChatGPT "good" at responding to users' input is *not* the system's ability to make mathematically or contextually informed guesses but rather a user's initial instructions, which prompt a probability-based response. ²³ This is evident in the many examples shared of ChatGPT offering users different answers to the same fundamental question. ²⁴ The unpredictable nature of these system's outputs highlights why regulating the inputs that make up the design of these products—the data and code—is critical.

AI Systems pose a unique challenge to the established regulatory paradigm because their inputs—data and code—are the key determining factors to their outputs, which can inflict harm to young users. The core of these systems lies in their ability to take basic instructional code and 'learn' from data—they are trained to recognize patterns, make predictions, or achieve specific goals through exposure to vast datasets. However, the learning process of these systems is often a "black

_

²³ See generally What is artificial intelligence (AI)?, IBM, https://www.ibm.com/topics/artificial-intelligence (last visited Dec. 20, 2023) (Generative AI "can take raw data . . . and 'learn' to generate statistically probable outputs").

²⁴ See, e.g., Sebastian Krügel et al., *ChatGPT's inconsistent moral advice influences users' judgment*, Nature (Apr. 6, 2023), https://www.nature.com/articles/s41598-023-31341-0 (last visited Dec. 20, 2023).

box," even to the engineers who build them.²⁵ When engineers themselves want to change the outputs of these AI Systems, they go back to the code that instructs them and the data that informs them.

In considering the future rapid development of technologies based on AI Systems, it becomes clear that the most effective—and indeed, the only—way to regulate AI System outcomes and impacts is by regulating the data and the code with which they are built.²⁶ Historically, government regulations have focused primarily on outcomes. For example, concrete rules have been established in areas such as fair lending, automotive emissions, and hiring practices. Such regulatory schemes operate on the basic assumption that there are well-specified processes in place that lead to intelligible, deterministic outcomes. In the context of AI Systems, the fact is that such an assumption does not always hold true.

Concentrating solely on outcomes overlooks the distinct regulatory challenges presented by modern AI's probabilistic and sometimes unpredictable characteristics.

²⁵ Adam Zewe, Unpacking the "black box" to build better AI models, MIT News (Jan. 8, 2023), https://news.mit.edu/2023/stefanie-jegelka-machine-learning-0108 (last visited Dec. 20, 2023).

²⁶ See Christine Lai and Dr. Jonathan Spring, Software Must Be Secure by Design, and Artificial Intelligence Is No Exception, Cybersecurity and Infrastructure Security Agency (Aug. 18, 2023), https://www.cisa.gov/news-events/news/softwaremust-be-secure-design-and-artificial-intelligence-no-exception (last visited Dec. 20, 2023) (discussing how secure design practices "are a foundation on which other guardrails and safety principles depend").

The outcomes produced by probabilistic AI Systems are intrinsically linked to their inputs—including the design of the "model" and the data used to train it (such as children's personal data). To mitigate the documented and emergent risks flowing from commercial AI Systems, new regulatory frameworks are already focusing on these inputs and the design process. For instance, state and federal data privacy laws establish explicit guidelines on the collection and usage of personal data, with even stricter controls for sensitive information.²⁷ These laws are particularly pertinent to AI, as they govern the data that forms the foundation of these technologies. Moreover, incidents where generative AI tools have inadvertently disclosed data from their training sets underscore the importance of such legislation.²⁸ These are not just abstract concerns but tangible issues that must be addressed to ensure the responsible evolution of AI Systems.

_

²⁷ See, e.g., FTC Proposes Strengthening Children's Privacy Rule to Further Limit Companies' Ability to Monetize Children's Data, Federal Trade Commission (Dec. 20, 2023), https://www.ftc.gov/news-events/news/press-releases/2023/12/ftc-proposes-strengthening-childrens-privacy-rule-further-limit-companies-ability-monetize-childrens (last visited Dec. 20, 2023); see also Conor Murray, U.S. Data Privacy Protection Laws: A Comprehensive Guide, Forbes (Apr. 25, 2023), https://www.forbes.com/sites/conormurray/2023/04/21/us-data-privacy-protection-laws-a-comprehensive-guide/?sh=114717325f92 (last visited Dec. 20, 2023).

²⁸ See, e.g., Trade Secrets and Generative AI: Protective Measures In an Evolving Technological Landscape, Jones Day (June 2023), https://www.jonesday.com/en/insights/2023/06/trade-secrets-and-generative-ai (last visited Dec. 20, 2023).

C. The Act's Technology-Neutral Scope is a Bulwark Against Obsolescence.

Critically, the Act was designed to be future-proof amidst a rapidly advancing technology ecosystem. The Act is future-proof in (1) how it determines the technologies that are covered and (2) how it focuses on design rather than outcomes.

The Act's technology-neutral scope is its bulwark against obsolescence. Because the Act avoids naming specific products or sectors—applying instead across California's economy—it thereby embraces all digital products, services, or features that children are likely to access. Such legislative foresight ensures that as technological innovation surges ahead, children's safety remains a constant. The Act's tech-neutral scope serves to safeguard against the potential risks of emergent technologies.

Furthermore, the Act's design focus on design ensures that its forward-looking framework will not lag behind our rapidly evolving technological environment. The Act's anticipatory, design-based approach, mandating that safety be embedded within code and data, not only sets a standard for companies but also grants them the liberty to innovate within a secure and ethical boundary, effectively future-proofing regulatory efforts and sealing potential loopholes. Critically, this paradigm of design-by-default preempts harm, addressing potential issues at their source rather than retroactively mitigating damage. It is a transformative regulatory philosophy that shifts the responsibility to creators, compelling them to prioritize

harm prevention in their innovations, thus upholding the integrity and safety of digital spaces for the most vulnerable among us.

II. The District Court Erred in Holding that the Act Violated the First Amendment

A. The Act Regulates Product Design, Not Protected Speech.

States may enforce regulations that require or compel speech or that may touch upon and incidentally burden speech, but this is not necessarily a First Amendment violation. See, e.g., Nat'l Inst. of Family & Life Advocates v. Becerra, 138 S. Ct. 2361, 2373 (2018); CTIA - The Wireless Ass'n v. City of Berkeley, 928 F.3d 832, 842 (9th Cir. 2019). And the Supreme Court has explained that "[r]egulatory programs almost always require content discrimination." Reed v. Town of Gilbert, 576 U.S. 155, 177 (Breyer, J., concurring) (citing examples where "speech regulated by government that inevitably involve[s] content discrimination, but where a strong presumption against constitutionality has no place"). To suggest that "such content discrimination triggers [First Amendment] scrutiny is to write a recipe for judicial management of ordinary government regulatory activity." Id. "Consistent with this view, the Supreme Court has rejected First Amendment challenges to the Fair Labor Standards Act and its exceptions, the National Labor Relations Act, the Sherman Act, and taxes." Mobilize the Message, LLC v. Bonta, 50 F.4th 928, 937 (9th Cir. 2022) (cleaned up), cert. denied, 143 S. Ct. 2639 (2023).

There is a striking parallel between the digital domain that the Act seeks to regulate, building codes, and product design standards. This Court has recognized that social media platforms are akin to products. *See, e.g., Lemmon v. Snap, Inc.*, 995 F.3d 1085 (9th Cir. 2021). Both federal and state regulations mandate "speech" in the form of specific product warnings. *See, e.g.,* 16 C.F.R. § 1500.19(b) (requiring "any article that is a toy or game *intended for use by children*" with small parts to include a choking hazard warning (emphasis added)); 21 C.F.R. § 201.100(d) (requiring prescription labels to include adequate directions for the product's safe use, including "any relevant warnings, hazards, contraindications, side effects, and precautions"); 29 C.F.R. § 1910.1001(j) (requiring all industries covered by the Occupational Safety and Health Act to, among other things, communicate specific warnings to employees and post signs that include specific language).

The Act's distinction between children and adults is no different than product regulations that mandate specific content but different content requirements based on the age of the product user. For example, the Consumer Product Safety Commission (CPSC) regulation of children's products represents carefully calibrated standards that balance the intricate interplay between commerce and public safety, and this is particularly true with respect to our nation's youngest and most vulnerable consumers. The CPSC mandates, for instance, may encompass restrictions on the use of certain hazardous materials in toys, stringent specifications

for non-toxicity in children's apparel, and comprehensive safety evaluations for particular products.²⁹

Data and code are the very bedrock of our burgeoning digital world and are the materials and designs employed in the construction of our built environment. The fact that modern digital designs, services, and products are closely associated with *information* cannot be used as a naïve excuse to prevent the government from regulating them. The importance of the government's ability to extend its regulatory oversight to the digital landscape is vital and urgent. Overseeing the creation and functionality of Advanced Digital Technologies with the same rigor and responsibility as it does for our buildings and consumer products and services.

Regulations concerning how companies can collect and use personal data are critical to ensuring that Advanced Digital Technologies are not manipulating or deceiving users, perpetuating biases, or inadvertently exposing sensitive, personal data included in their training sets. The Act was enacted to protect children from such harms that result from unscrupulous use of data and code.

Given the surge in AI technology and its increasingly prevalent role in commercial activity, commercial AI applications must be able to be regulated in a

²⁹ See generally, Regulations, Mandatory Standards and Bans, Consumer Product Safety Commission, https://www.cpsc.gov/Regulations-Laws--Standards/Regulations-Mandatory-Standards-Bans (last visited Dec. 20, 2023).

similar fashion to brick-and-mortar commercial activity. Thus, the Act should be understood to be concordant with our tradition of regulatory schemes directed at commerce that place incidental burdens on speech.

B. Outputs of AI-Driven Advanced Digital Technologies Are Not Speech.

The district court held that the Act's prohibition on the collection and use of personal data gleaned from children regulates protected speech because it limits the availability and use of information. However, because the rote, mechanistic outputs of fundamentally probabilistic Advanced Digital Technologies such as AI Systems involve neither human cognition nor volition, they are not speech.

The First Amendment protects the freedom to think and speak as an inalienable *human* right. *See W. Va. State Bd. of Educ. v. Barnette*, 319 U.S. 624, 642 (1943) (finding mandatory flag salute violates "the sphere of intellect and spirit which it is the purpose of the First Amendment.") States may not restrict speech based on "its message, its ideas, its subject matter, or its content." *Reed v. Town of Gilbert*, 576 U.S. 155, 163 (2015). The First Amendment does not, however, prevent restrictions directed at commerce or non-expressive conduct. *Barr v. American Assn. of Political Consultants, Inc.*, 140 S. Ct. 2335, 2347 (2020).

AI Systems, like other Advanced Digital Technologies, rely on instructional code and huge datasets to perform calculations and generate outputs. Today, builders of these advanced AI Systems cannot provide complete, mechanistic explanations

for why any specific inputs produce any specific outputs. Thus, neither the code that builds AI Systems nor the data that fuels them possesses the capacity for speech or expression. Rather, the algorithms are given a set of inputs in the form of data and code. Then, the algorithm applies AI to learn how to achieve that goal, modifying how it does so simply with the inputs it receives in the form of data and instructions. Once released, AI Systems are constrained only by the rigidity of their inherently probabilistic nature.

AI Systems' sophisticated capacity to *mimic* communication does not compare to the human capacity for speech. AI Systems are reliant on external data and code inputs to pattern match and determine outputs. However technologically advanced, the machinations of AI Systems and their rote outputs fall short of speech both as it was understood at the time the First Amendment was adopted and today.

Leading scholars have explained the deeply concerning consequences of assuming machine speech is legally equivalent to or deserving of the same constitutional rights as human speech.³⁰ Moreover, AI-selected content is qualitatively distinct from the corporate speech held to be protracted by *Citizens United v. FEC*, 558 U.S. 310, 392 (2010). While the speaker in *Citizens United* was a conservative non-profit organization seeking to advance its political beliefs

_

³⁰ See, e.g., Tim Wu, Machine Speech, 161 U. Pa. L. Rev. 1495, 1496 (2013); Helen Norton, Manipulation and the First Amendment, 30 Wm. & Mary Bill Rts. J. 221, 223 (2021).

through paid advertising, here, the social media platforms' AI is not designed to express an idea or belief but simply maximize the engagement of neurologically vulnerable youth at the expense of their physical safety and mental well-being.

Many of today's largest and most powerful AI Systems are not simply "a new and different medium for communication" to which the Court simply needs to apply the First Amendment, such as radio, film, television, video games, or the internet. Brown v. Entm't Merchs. Ass'n, 564 U.S. 786, 790 (2011) (cleaned up). This case is not—as the district court reasoned—simply about a new medium for speech but a new vehicle for *commerce*. Indeed, "[w]ith increasing frequency, some of the most important decisions regarding business planning, strategy, and goal setting are heavily influenced if not effectively controlled by AI technologies[.]" Michael R. Siebecker, The Incompatibility of Artificial Intelligence and Citizens United, 83 Ohio St. L.J. 1211, 1218 (2022). AI Systems are not like the wireless telegraph, the telephone, television, or the internet because AI Systems can run completely autonomously, and businesses rely upon them because of the efficiencies gleaned from automation. Efficiency may be impressively lucrative, but without a moral compass, it can be a fast track to devastation.

CONCLUSION

For the foregoing reasons, the injunction should be vacated.

DATED: December 20, 2023.

Respectfully submitted,

/s/ Matthew P. Bergman
MATTHEW P. BERGMAN
PATRICK STRECKERT
SOCIAL MEDIA VICTIMS LAW CENTER
600 1ST Ave, Suite 102 – PMB 2383
Seattle, WA 98101
(206) 741-4862

CERTIFICATE OF COMPLIANCE

I am counsel for *amicus curiae* The Center for Humane Technology. This brief contains 5,999 words, excluding the items excluded by Federal Rule of Appellate Procedure 32(f). The brief's typeface and size comply with Federal Rule of Appellate Procedure 32(a)(5) and (6). I certify that this brief is an amicus brief and complies with Federal Rule of Appellate Procedure 29(a)(5).

DATED: December 20, 2023.

Respectfully submitted,

/s/ Matthew P. Bergman
MATTHEW P. BERGMAN
PATRICK STRECKERT
SOCIAL MEDIA VICTIMS LAW CENTER
600 1ST Ave, Suite 102 – PMB 2383
Seattle, WA 98101
(206) 741-4862

CERTIFICATE OF SERVICE

I hereby certify that on December 20, 2023, I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the appellate CM/ECF system. I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

Respectfully submitted,

/s/ Matthew P. Bergman
MATTHEW P. BERGMAN
PATRICK STRECKERT
SOCIAL MEDIA VICTIMS LAW CENTER
600 1ST Ave, Suite 102 – PMB 2383
Seattle, WA 98101
(206) 741-4862