Big Tech Ignores National Security Experts and Ghosts U.S. Government in Developing AI and Preparing for Large-Scale Cyber Attacks

WASHINGTON, DC – Today, the Tech Oversight Project slammed Big Tech companies Google, Apple, Facebook, and Amazon for refusing to work with United States Military and Intelligence officials in developing next-generation artificial intelligence and preparing for cyberattacks like those expected over the coming days, weeks, and months from Russian-backed actors. Recently, the Federal Cybersecurity and Infrastructure Security Agency warned Americans to prepare for Russian-led cyber attacks, as national security experts express concerns that "we are not ready" for impending attacks.

How Big Tech Ignored Our Military and Weakened Our National Security on Artificial Intelligence:

- **Top U.S. National Security Officials Believe That AI And Machine Learning Would Have Transformative Implications For Cybersecurity And Cyberwar.** "Cybersecurity & Cyberwar Top U.S. national security officials believe that AI and machine learning will have transformative implications for cybersecurity and cyberwar. In response to a question from the authors of this report, Admiral Mike Rogers, the Director of the National Security Agency and Commander of U.S. Cyber command, said 'Artificial Intelligence and machine learning—I would argue—is foundational to the future of cybersecurity [...] We have got to work our way through how we're going to deal with this. It is not the if, it's only the when to me.' We agree." [Harvard Belfast Center, Artificial Intelligence And National Security, July 2017]
- **Defense One: AI Was "An Increasingly Crucial Element Of Cyber Security And Hacking."** "Housing the AI research labs of America's cutting-edge tech companies in authoritarian China was never a good idea. But given that the Chinese government uses foreign tech companies to help find and exploit security vulnerabilities, and that it is claiming ever more control over tech companies' operations and data, it looks more objectionable than ever. AI is an increasingly crucial element of cyber security and hacking, and Xi Jinping's China has demonstrated time and time again that China's high- tech sector serves the CCP, which sees AI technology in particular as a core tool of its future autocratic rule." [Defense One, 8/10/21]

- **The Head Of Google's Cloud AI Program Acknowledged There Were "Horrible Scenarios" That Could Come From AI**. "While killer robots are still many years away, AI in some cases could pose an enormous threat to humans, according to Andrew Moore, the dean of the Computer School at Carnegie Mellon University who will soon take over as head of Google Cloud AI. In November, Moore gave the keynote address for the Artificial Intelligence and Global Security Initiative, and said: "If an AI disaster happens, and that would, for instance, be an autonomous car killing people due to serious bugs, and frankly I believe that's already happened, then at some point AI systems are going to be locked down for development, at least in the US." "There are some even more horrible scenarios — which I don't want to talk about on the stage, which we're really worried about — that will cause the complete lockdown of robotics research," Moore continued." [Business Insider, 9/12/18]
- **Despite the vastly consequential implications of AI on warfare and defense, Big Tech had shut out the Pentagon from developing AI with them**. Big Tech was said to have "relatively little incentive to work with the Pentagon" because they had "financial independence from U.S. government contracts." Because of commercial companies leading AI development, the Department of Defense was forced to adapt Big Tech's AI innovations for military applications after the fact. The Pentagon urged the private sector to partner with them, warning that China and Russia's investments in AI for military purposes "threaten[d] to erode our technological and operational advantages. [Center For Security And Emerging Technology, Antitrust And AI, May 2020]
- **With Commercial Companies Leading AI Development, The DoD Was Forced To Adapt Big Tech's AI Innovations For Military Applications After The Fact.** "Indeed, DARPA's Strategic Computing Initiative invested over $1 billion between 1983 and 1993 to develop the field of artificial intelligence for military applications, but the initiative was ultimately canceled due to slower-than-anticipated progress.103 Today, commercial companies— sometimes building on past government-funded research—are leading AI development, with DOD later adapting their tools for military applications." [Congressional Research Service, 11/10/20]
- **The Department of Homeland Security was similarly concerned about Big Tech working on AI privately, saying our adversaries were "equally interested" in winning the tech arms race**. The Department of Homeland security warned that the best resourced adversaries had "more tools at their disposal to build or buy the technologies that [would] matter most" in the tech arms race. DHS worried about the "constraints" of developing military technology when private enterprise drove technological advancements. [DHS.gov, 2018 Public-Private Analytic Exchange Program, May 2018]
- **The DoD Said Their AI Strategy Required "Close Collaboration With Academia And Non-Traditional Centers Of Innovation In The Commercial Sector."** "We cannot succeed alone; this undertaking requires the skill and commitment of those in government, close collaboration with academia and non-traditional centers of innovation in the commercial sector, and strong cohesion among international allies and partners. We must learn from others to help us achieve the fullest understanding of the potential of AI, and we must lead in responsibly developing and using these powerful technologies, in accordance with the law and our values." [Defense.Gov, Summary Of The 2018 DoD AI Strategy, 2018]
- **The DoD Warned That China And Russia's Investments In AI For Military Purposes** "Threaten[d] To Erode Our Technological And Operational Advantages." "Other nations, particularly China and Russia, are making significant investments in AI for military purposes, including in applications that raise questions regarding international norms and human rights. These investments threaten to erode our technological and operational advantages and destabilize the free and open international order. The United States, together with its allies and partners, must adopt AI to maintain its strategic position, prevail

- **If the U.S. was unable to leverage the tech developed in their country, its adversaries could obtain "significant strategic advantages" over it.** Stratfor noted that adapting disruptive technology gave "significant strategic advantages to U.S. adversaries if not adequately protected and leveraged" in the U.S. However, because private companies were largely focused on profit, "American interests were not part of the calculus" of how they did business according to Columbia University. Columbia further expanded by saying global corporations with large foreign revenue streams might end up with "profit-based interests that do not align with American national interests. Big Tech had already been accused of contravening U.S. interests on China by the Carnegie Endowment for International Peace. [Stratfor, 11/12/19]

- **Dan Coats, Said New Technologies Could Allow Adversaries To "More Readily Develop Weapon Systems That [Could] Strike Farther, Faster" And Challenge The United States In All Warfare Domains."** "We assess that technology developments—in the biotechnology and communications sectors, for example—are likely to outpace regulation, which could create international norms that are contrary to U.S. interests and increase the likelihood of technology surprise. Emerging technology and new applications of existing technology will also allow our adversaries to more readily develop weapon systems that can strike farther, faster, and harder and challenge the United States in all warfare domains, including space." Daniel R. Coats, Director of National Intelligence, February 2018." [Harvard Belfast Center, Artificial Intelligence And National Security, July 2017]

- **Center For Security And Emerging Technology: Big Tech Had "Relatively Little Incentive To Work With The Pentagon" Because They Had "Financial Independence From U.S. Government Contracts."** "Are smaller vendors more likely to produce innovative products that meet the Pentagon's needs? Tech industry leaders have relatively little incentive to work with the Pentagon. Their companies already enjoy broad customer bases and financial independence from U.S. government contracts—including those at the Pentagon.89 DOD contracts involve applying AI technology in varied, complex, and operationally demanding environments with low tolerance for error." [Center For Security And Emerging Technology, Antitrust And AI, May 2020]

- **With Commercial Companies Leading AI Development, The DoD Was Forced To Adapt Big Tech's AI Innovations For Military Applications After The Fact.** "Indeed, DARPA's Strategic Computing Initiative invested over $1 billion between 1983 and 1993 to develop the field of artificial intelligence for military applications, but the initiative was ultimately canceled due to slower-than-anticipated progress.103 Today, commercial companies— sometimes building on past government-funded research—are leading AI development, with DOD later adapting their tools for military applications." [Congressional Research Service, 11/10/20]

- **Carnegie Endowment For International Peace: Big Tech Companies Had "Taken Many Actions That Contravene[d] U.S. Interests, Then Relied On Their Clout To Avoid Accountability."** "But national security cuts both ways in the antitrust debate. Silicon Valley giants have taken many actions that contravene U.S. interests, then relied on their clout to avoid accountability. Social-media platforms have given terrorist groups a new way to radicalize recruits and enabled foreign governments to covertly influence the general public. These actors exploit algorithms that make sensational content go viral—a result of decisions by Facebook and YouTube to maximize user engagement." [Carnegie Endowment For International Peace, 10/22/19]

<u>**Meanwhile, Russia Moved Full Steam Ahead in Investing in AI**</u>
- **Russia had established numerous organizations to help them develop military AI technology and aimed to robotize 30% of its military equipment by 2025**. Russia's military AI research heavily emphasized semiautonomous and autonomous vehicles. The country's defense and security committee chairman said AI would be able to replace a soldier on the battlefield and a pilot in an aircraft. Russia and China had a "growing technological cooperation" with each other that could assist Russia with advancing its AI development. [Congressional Research Service, 11/10/20]
- **Russia Started A Research Organization Much Like The U.S.'s DARPA, Dedicated To Autonomy And Robotics.** "Russia is establishing a number of organizations devoted to the development of military AI. In March 2018, the Russian government released a 10-point AI agenda, which calls for the establishment of an AI and Big Data consortium, a Fund for Analytical Algorithms and Programs, a state-backed AI training and education program, a dedicated AI lab, and a National Center for Artificial Intelligence, among other initiatives. 169 In addition, Russia recently created a defense research organization, roughly equivalent to DARPA, dedicated to autonomy and robotics called the Foundation for Advanced Studies, and initiated an annual conference on 'Robotization of the Armed Forces of the Russian Federation.'" [Congressional Research Service, 11/10/20]
- **Russia's Defense And Security Committee Chairman, Viktor Bondarev, Said AI Would Be Able To Replace A Soldier On The Battlefield And A Pilot In An Aircraft.** "In an official statement on November 1, 2017, Viktor Bondarev, chairman of the Federation Council's Defense and Security Committee, stated that 'artificial intelligence will be able to replace a soldier on the battlefield and a pilot in an aircraft cockpit' and later noted that 'the day is nearing when vehicles will get artificial intelligence.' Bondarev made these remarks in close proximity to the successful test of Nerehta, an uninhabited Russian ground vehicle that reportedly 'outperformed existing [inhabited] combat vehicles.'" [Congressional Research Service, 11/10/20]

<u>**How Big Tech Could've Harnessed Its Size to Help the U.S. Military Develop AI:**</u>
Each of these companies both had the size scale to cooperate with the United States military to help the United States better prepare for cyberattacks like the ones expected from Russia over the course of the coming days, weeks, and months. They turned a blind eye to our national security interests in favor of profit and refused to risk market share in authoritarian countries like Russia and China.

Amazon
- **Amazon Dominated The Cloud Computing Market, Holding Between 32%-34% Of Global Market Share.** "We can also look at analyses provided by credible third-party research firms. New data from Synergy Research Group shows that "While Amazon and Microsoft continue to account for over half of the worldwide market, Microsoft once again gained ground on its larger rival and hit the milestone of achieving a 20% worldwide market share. Microsoft, Google, and Alibaba have all steadily gained market share over the last four years, though it has not been at the expense of market leader Amazon. Amazon's market share has stayed in the 32-34% band throughout that four-year period." [Cloud Health Tech, 5/27/21]
- **Amazon's Cloud Division Was The Dominant Cloud Provider Among Federal Agencies, The Department Of Defense And The Intelligence Community.** "Amazon Web Services is parent company Amazon's most profitable business unit, and while industry analysts consider it the market leader in cloud computing, it is also the dominant cloud provider among federal agencies, the Defense

Department and the intelligence community. AWS first inked a $600 million cloud contract with the CIA called C2S in 2013, through which it provided cloud services to the CIA and sister intelligence agencies, including the NSA. Last year, AWS secured at least a portion of the CIA's multibillion-follow-on C2E contract." [Nextgov, 8/10/21]

Apple

- **64% Of Americans Owned An Apple Product. "Hold the pie. A survey now supports changing the phrase to just 'as American as Apple.'** The CNBC All-America Economic Survey finds that 64 percent of Americans now own an Apple product, up from 50 percent when the question was last asked five years ago. The average American household reports owning 2.6 Apple products, up by a full Apple product from the 2012 survey. "I cannot think of any other product — especially any other product at a high price point — that has that kind of permeation with the public and level of growth," said Jay Campbell, a pollster with Hart Research, which conducted the survey along with Public Opinion Strategies." [CNBC, 10/10/17]
- **The Average American Household Owned 2.6 Apple Products.** "Hold the pie. A survey now supports changing the phrase to just 'as American as Apple.' The CNBC All-America Economic Survey finds that 64 percent of Americans now own an Apple product, up from 50 percent when the question was last asked five years ago. The average American household reports owning 2.6 Apple products, up by a full Apple product from the 2012 survey. "I cannot think of any other product — especially any other product at a high price point — that has that kind of permeation with the public and level of growth," said Jay Campbell, a pollster with Hart Research, which conducted the survey along with Public Opinion Strategies." [CNBC, 10/10/17]
- **iPhones Accounted 53% Of All Smartphones In The US. "Smartphone shipments grew 21% YoY in Q2 2021 continuing the positive momentum from Q1**. It is likely shipments and growth could have been higher in Q2, but industry-wide shortages curtailed this. Apple's market share slightly lowered to 53%, although strong iPhone 12 demand remained. Overall Apple shipments grew 38% YoY. Some shortages of iPhone SE (2020) hindered prepaid growth. Samsung's share dropped to 26%, but it also had positive YoY growth at 26%. Shortages, especially for A-series devices somewhat stifled Samsung's growth potential. LG's share drastically declined in Q2 2021, now at just 3%." [Counterpoint Research, 8/16/21]

Google

- **Google CEO Sundar Pichai Said AI Was "One Of The Most Important Things Humanity [Was] Working On."** "Google CEO Sundar Pichai says artificial intelligence is going to have a bigger impact on the world than some of the most ubiquitous innovations in history. 'AI is one of the most important things humanity is working on. It is more profound than, I dunno, electricity or fire,' says Pichai, speaking at a town hall event in San Francisco in January. A number of very notable tech leaders have made bold statements about the potential of artificial intelligence." [CNBC, 2/1/18]
- **Google / Alphabet's AI Labs Did Twice As Much Research Than Any Other Company Or University On AI.** "No company is more dominant in AI than Alphabet, parent company of Google and its AI-focused sister lab DeepMind. Combined, the companies' labs accounted for twice as much of the research published at AI conferences like NeurIPS as any other company or university. Their wide-ranging study has led them to defeat every existing chess player, translate over 100 languages, and probe the most minute mysteries of our biology. And in the first week of December, the

conglomerate illustrated how the river of corporate money flowing into AI in all those fields can come at the cost of lower standards for transparency and accountability." [Quartz, 12/12/20]

- **Since 2007, Google Bought At Least 30 AI Companies.** "You may laugh Pichai's comparison off as the usual Silicon Valley hype, but the company's dealmakers aren't laughing. Since 2007, Google has bought at least 30 AI companies working on everything from image recognition to more human-sounding computer voices—more than any of its Big Tech peers. One of these acquisitions, DeepMind, which Google bought in 2014, just announced that it can predict the structure of every protein in the human body from the DNA of cells—an achievement that could fire up numerous breakthroughs in biological and medical research." [Foreignpolicy.com, 8/11/21]

- **Tech Crunch: Google Was "The Most Important AI Company In The World."** "In its 2017 unclassified budget, the Pentagon spent about $7.4 billion on AI, big data and cloud-computing, a tiny fraction of America's overall expenditure on AI. Clearly, winning the future will not be a government activity alone, but there is a big role government can and must play. Even though Google remains the most important AI company in the world, the U.S. still crucially lacks a coordinated national strategy on AI and emerging digital technologies." [Tech Crunch, 4/15/18]

- **Google Processed Over 40,000 Search Queries Every Second. "Google processes over 40,000 search queries every second.** (Source: Ardor SEO) With the massive number of active users on Google's search engine every day, it really isn't a surprise this number is so high. Essentially, this amounts to over 3.5 billion searches per day and a whopping 1.2 trillion searches per year. Additionally, the search engine handles a mammoth amount of desktop searches. In April of 2019, Google managed 88.47% of desktop searches. This data is according to the Google search statistics from Internet Live Stats and the most recent SEO statistics." [Website Builder, 3/20/21]

- **Google's Mobile Software, Android, Was Used In 84.8% Of All Mobile Phones Across The Globe. "Android was the world's leading smartphone platform in 2020, with an 84.8% market share.** (Source: IDC) Android smartphones have spread really fast, and most companies now use the operating system when making phones. According to the recent stats about Google from IDC, Google's Android had the largest market share in 2020." [Website Builder, 3/20/21]

- **In 2020, There Were Over 1.8 Billion Active Gmail Users.** "How many active Gmail users are there? There are over 1.8 billion active Gmail users in 2020. That's one Gmail user for every five people around the globe. This makes Gmail one of the most popular email platforms in the world." [FinancesOnline.com, Accessed 11/8/21]

Facebook

- **Facebook And Its Subsidiaries Like Instagram Accounted For 75% Of All Time Spent On Social Media.** "Facebook and its subsidiaries, including Instagram, account for 75% of all time spent on social media. In a new paper, Yale SOM economist Fiona Scott Morton writes that the company took control of the industry by misleading consumers and buying up rivals. Scott Morton is the founder and director of the Thurman Arnold Project at Yale, which performs and disseminates research on antitrust policy and enforcement." [Yale.edu, 6/18/20]

- **Roughly 2 Billion People Interacted With Facebook Every Day.** "Roughly 2 billion humans interact with Facebook every day. People across the globe use it to share pictures, catch up with friends and family, post news stories, and debate politics and art. Non-profits build Facebook pages through which to deploy messaging and organize advocacy; schools post official calendars and sports schedules.

People with interests as varied as 'dry-aged beef,' 'rock-gardening,' and 'bow hunting,' gather in Facebook sponsored virtual groups.'" [Roadmap For An Antitrust Case Against Facebook, June 2020]

- **Facebook Possessed The Personal Data Of More Than A Quarter Of The World's Population, Nearly 2.8 Billion Out Of 7.9 Billion People.** "Since 2016, Facebook has become interested in election integrity here and elsewhere; the company has thirty-five thousand security specialists in total, many of whom function almost like a U.N. team of elections observers. But its early mantra, "Company over country," still resonates. The company is, in important respects, larger than any country. Facebook possesses the personal data of more than a quarter of the world's people, 2.8 billion out of 7.9 billion, and governs the flow of information among them. The number of Facebook users is about the size of the populations of China and India combined." [New Yorker, 7/26/21]

- **Facebook Captured 50% Of All Revenue In The Digital Ad Market.** "Another way to think of Facebook's market share is to examine the percentage of digital ad dollars that are spent to buy advertising on Facebook. The CMA finds that Facebook captures up to 50% of revenue in the digital display market. Excluding money earned on ads shown in search engine results, Facebook (including Instagram) generated almost half of all digital advertising revenues, an amount larger than the entirety of what is called the "open display" market, meaning ads placed on websites such as ESPN.com or Time.com, and more than four times larger than the amount earned by YouTube, its next largest competitor." [Roadmap For An Antitrust Case Against Facebook, June 2020]

- **Facebook Whistleblower Frances Haugen Told Lawmakers That She Believed Facebook Had Become A "National Security Issue."** "Facebook whistleblower Frances Haugen told lawmakers Tuesday that she believes the social media giant is a 'national security issue.' The former civic project manager for Facebook's misinformation team said the social media network saw "active participation" of 'the Iran government doing espionage on other state actors.' 'This is definitely a thing that is happening,' she said during testimony Tuesday." [Fox News, 10/5/21]

  - **According To Whistleblower Frances Haugen, Facebook Knew Its Platform Harmed U.S. Security Interests.** "Haugen's warning about national security implications was just one of the major areas the former Facebook employee flagged for lawmakers. Haugen asserted that Facebook has not only known its platform causes harm to U.S. security interests and to the well-being of minors using the platform, but that the site allegedly relies on negative interactions to drive engagement." [Fox News, 10/5/21]

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