Cornell Policy Review

Special Issue on Tech

Digital Dilemmas:

Policy Challenges in the Tech Era

Inside: 3 Articles on Innovations and Policies Shaping Our Tech Future

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As Editor-in-Chief of the Cornell Policy Review, it is with great excitement that I introduce our latest special edition, "Digital Dilemmas: Policy Challenges in the Tech Era." This edition reflects our continued mission to illuminate pressing public policy challenges and showcase the voices of emerging scholars at the forefront of critical debates.

Technology is no longer a distant sector—it is a force shaping governance, security, and society itself. In this edition, our authors examine the evolving role of technology in American public life, from the limitations of AI self-regulation and the rise of energy-intensive computing to the civil liberties implications of surveillance programs targeting international students.

I am grateful to Dr. James Patton Rogers for his insightful foreword, which frames this edition by situating today's technological debates within larger questions of power, control, and democratic values.

This also marks the final special edition of my term as Editor-in-Chief. It has been a privilege to lead this publication and support the work of so many thoughtful writers and editors committed to public policy impact. A special thank you to my team—Andrew, Johanna, and Arsh—for an incredible year!

Thank you to the contributors, editors, and staff who brought this edition to life. And a special acknowledgment to our readers—students, practitioners, and thought leaders—who engage with these ideas and help carry them forward.

We invite you to explore this timely edition and reflect with us on what it means to govern technology before it governs us.

Alejandro J. Ramos
Editor-in-Chief
Cornell Policy Review

| Foreword |

The Brooks Tech Policy Institute (BTPI), based at Cornell University's Jeb E. Brooks School of Public Policy, stands at the forefront of research and policy development where technology intersects with national security. Established to address the rapid advancements in technology and their implications for global security, BTPI brings together experts from various disciplines to collaborate on pressing technological challenges.

Under the leadership of Director Sarah Kreps, the John L. Wetherill Professor in the Department of Government, and Executive Director James Patton Rogers, BTPI has become a hub for interdisciplinary research and policy engagement.The institute focuses on critical areas such as artificial intelligence, cybersecurity, cryptocurrency, supercomputing, and drone technology. Its mission is to unite experts from STEM fields and the social sciences to work alongside policymakers and industry leaders, addressing emerging challenges to national security.

In 2025, BTPI received a $3 million grant from the U.S. Department of Defense to establish the U.S. Semiconductor Research Hub, aiming to enhance the resilience of the global semiconductor supply chain. This initiative exemplifies BTPI's commitment to conducting timely, purpose-driven, and impact-oriented tech policy research.

BTPI's work extends beyond research; it actively engages with international organizations such as NATO and the United Nations. For instance, the institute has led policy work on drone warfare, hosting workshops and contributing to publications that inform NATO's approach to emerging drone technologies.

Dr James Patton Rogers is the Executive Director of the Brooks Tech Policy Institute, the home of technology and national security policy research at Cornell University. He currently teaches Contemporary Security Policy (PUBPOL 3010/5010)_and in the Fall will offer a course on Disruptive and Emerging Technologies (PUBPOL 2120) covering the latest policy and security issues around AI, autonomous systems, robotics, supercomputing, and more.
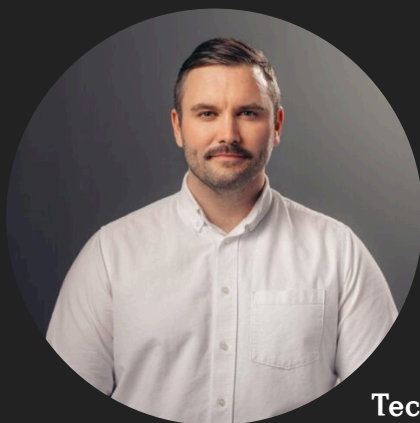
James Patton Rogers

Executive Director of the
Brooks Tech Policy Institute

Techtonic Shifts: Technology and Power in a Rapidly Changing World

For much of this century, technological progress has been synonymous with the promise of economic growth, innovation, and human advancement. Policymakers have treated it as an engine of prosperity, a largely neutral force that, if properly harnessed, could lift societies and reshape industries. The sharpest end of technological innovation was in defense, but even those advancements were said to make wars more surgical, precise, humane. That world of optimism is quickly fading.

Today, discussions about technology often represent and reinforce the fault lines and fractures that divide us domestically and internationally. Technology is now the site of political contestation, a strategic asset, and, increasingly, a source of profound policy dilemmas.

There can be little doubt that we are in the midst of a paradigm shift, one that extends across borders and deep into society. Internationally, great power competition is being redefined by the race for technological superiority and very real security threats, as nations seek to secure their positions in artificial intelligence, semiconductors, cybersecurity, and the latest high-tech weapons. The competition is no longer just about economic primacy but about military power, industrial resilience, and political influence in a divided world.

At home, the United States faces an additional set of challenges. The rapid proliferation of AI and digital technologies tests the limits of existing regulatory frameworks, raising difficult questions about oversight, accountability, and the unintended consequences of innovation. For example, can AI systems, which are increasingly embedded in financial markets, legal decisions, political discourse, and law enforcement, be relied upon to operate without clear standards? How should policymakers balance the need for technological progress with concerns about trust, privacy, and social cohesion? Or is it better to let AI regulate itself?

At the same time, governments are exploring new uses for AI in areas such as border control, policing, and social media monitoring—moves that, while often justified on national security grounds, raise concerns about civil liberties and the scope of state surveillance. In addition, debates around the energy demands of AI reveal tensions between digital expansion and climate commitments. The rise of generative AI, with its vast computing needs, is already straining electrical grids and prompting debate over how tech companies should address a growing carbon footprint.

These tensions are not easily resolved, and the stakes are high. It is here that the essays in this special issue of the Cornell Policy Review, written by a talented, engaged, and informed cohort of emerging scholars, explore these complexities, highlighting the trade-offs and contradictions that define our digital era. These authors examine the intersection of policy and technology from multiple angles, engaging issues such as the security implications of semiconductor supply chains, the challenges of regulating AI, the preservation of freedom of speech, and the energy-intensive nature of generative AI. In so doing, they offer us a route to address these issues.

What emerges is a vision of a world in transition—one in which the fight to fulfil these old promises remains, but where policymakers, industry leaders, and citizens alike must grapple harder than ever to control technology and not allow it to control us.

AI, Surveillance, and Free Speech: The U.S. 'Catch and Revoke' Policy and Its Impact

Parmis Mokhtari-Dizaji, a first-year undergraduate student, is pursuing a B.Sc. in Public Policy at the Cornell Brooks School of Public Policy. With a focus on refugee policy, sustainability, and social impact, she seeks to bridge design, technology, economics, and policy to develop inclusive solutions for global challenges. As a member of the Global Design Initiative for Refugee Children, she has contributed to designing portable playscapes for refugee camps, integrating human-centered design with innovative strategies to support displaced communities.

The United States has long been a global leader in higher education, attracting millions of international students with promises of academic freedom, cutting-edge research, and career opportunities. However, the State Department's newly launched "Catch and Revoke" initiative threatens this reputation.[1] This AI-driven surveillance program monitors the social media activity of foreign student visa holders, aiming to identify and revoke visas of individuals deemed supportive of designated terrorist organizations. While framed as a national security measure, the policy raises serious concerns about due process, free speech, and its broader implications for international students and U.S. higher education. This is particularly significant given that, according to the National Center for Education Statistics, nearly half of graduate students in STEM fields at U.S. degree-granting institutions are nonresidents (Figure 1).[2] Critics warn that such measures could deter top global talent, worsening the already declining trend in international student enrollment and accelerating the brain drain of skilled workers to other nations. In the end, a policy intended to protect national security may instead cost the United States its global academic edge.

Figure 1. Master's Degrees in STEM by Race/Ethnicity and Residency Status (2021–22)
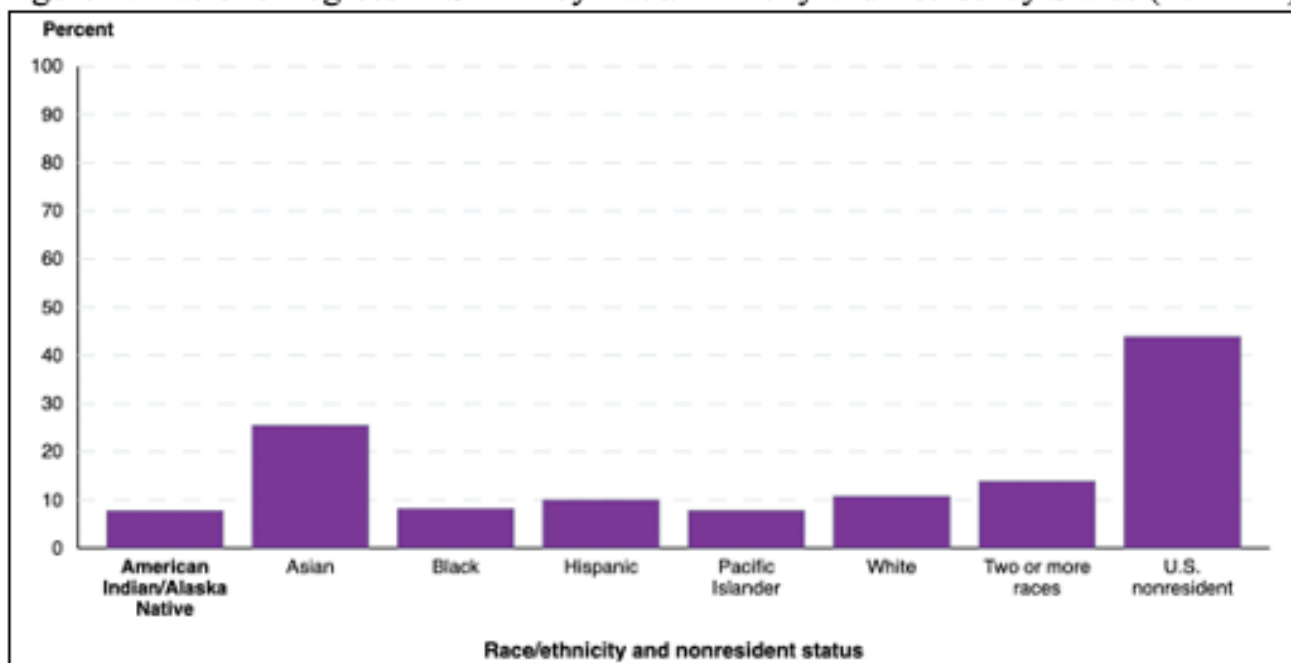
Source: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Completions component, Fall 2022 (provisional data).

AI Surveillance and the Erosion of Due Process

The "Catch and Revoke" initiative signifies a major escalation in the application of artificial intelligence (AI) within immigration enforcement.[3] This program utilizes machine-learning algorithms to scrutinize various data sources, including social media activity, participation in protests, and historical records like past arrests or disciplinary actions. While AI systems are highly effective at processing large datasets, they inherently lack the capacity to accurately interpret the subtleties inherent in political discourse, satire, or culturally specific references.[4] This limitation raises substantial concerns among advocates of free speech, who caution that such automated systems are prone to misinterpretations.[5] Consequently, individuals may face deportation based on classifications that are arbitrary or erroneous. Empirical evidence highlights these concerns; for instance, a 2019 study revealed that automated content moderation tools were up to two times more likely to flag content posted by Black users and misidentify hate speech in texts written in African American English.[6] These findings point to the potential for AI-driven systems to perpetuate existing biases, thereby jeopardizing the principles of due process and freedom of expression.

Moreover, the opacity of AI decision-making processes exacerbates these issues. Often characterized as "black box" systems, AI algorithms operate without transparent mechanisms for external scrutiny or accountability.[7] This lack of explainability limits affected individuals' ability to understand or contest decisions that have profound implications on their lives, such as visa revocations. Looking beyond the United States, the European General Data Protection Regulation (GDPR) tackles similar concerns by giving individuals the right not to be subject to decisions made solely through automated processing, highlighting the need for human oversight in crucial decisions.[8] In the context of the "Catch and Revoke" initiative, the absence of such safeguards may lead to unjust outcomes, particularly for international students who are actively engaged in political or academic discussions.

The Case of Mahmoud Khalil: A Warning Sign

The recent case of Mahmoud Khalil's detention highlights the real-world implications of AI-driven surveillance policies like "Catch and Revoke," which risk targeting individuals based on political beliefs rather than legal violations. Khalil, known for organizing and leading pro-Palestinian demonstrations, was arrested by U.S. Immigration and Customs Enforcement (ICE) agents at his university-owned apartment in Manhattan on March 8, 2025.[9] Initially, agents cited the revocation of his student visa; upon discovering his status as a legal permanent resident, they shifted to revoking his green card.[10] This abrupt action, lacking clear charges, has raised significant concerns among legal experts about the potential misuse of AI surveillance to unjustly target individuals based on their political activities rather than any concrete legal infractions.[11] Trump has since stated that Khalil's arrest is just the beginning of "many to come," raising concerns that "Catch and Revoke" and similar policies could be wielded to suppress dissent rather than enforce immigration law.[12] Khalil's case ultimately highlights how the Trump administration's mass deportation efforts intersect with its crackdown on pro-Palestinian student protesters, suggesting that opposition to the administration's agenda may lead to arrest or deportation.[13] The opacity of
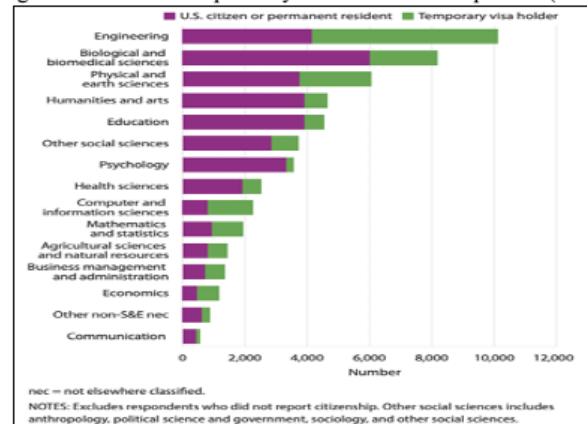
AI-driven policies like "Catch and Revoke" makes it difficult for individuals to challenge decisions, particularly when these systems have documented biases against marginalized communities. This lack of transparency is particularly alarming in Khalil's case, where the absence of clear criminal charges in his detention raises serious due process concerns and sets a troubling precedent for using national security as a pretext to suppress political opposition. With reports that the State Department, Department of Justice, and Department of Homeland Security plan to deploy "Catch and Revoke" to monitor foreign students' political activity, Khalil's case may be a preview of a broader campaign against those deemed politically inconvenient.[14]

Implications for International Students and Higher Education

The effects of AI-driven visa revocations extend beyond individual cases, posing risks to the U.S. education system and economy. International students contribute over $40 billion annually to the U.S. economy and serve as a crucial talent pipeline for industries facing labor shortages, particularly in STEM fields.[15] Since 2010, temporary visa holders have earned nearly 180,000 of the 585,000 doctorates awarded in the United States, with 56% of all doctorates awarded in science and 31% of those awarded in engineering (Figure 2).[16] In 2020, temporary visa holders outnumbered U.S. citizens and permanent residents in earning doctorates in engineering, computer sciences, mathematics, and economics.[17] Within engineering, temporary visa holders accounted for about two-thirds of doctorate recipients in electrical, electronics, and communications engineering (68%), industrial and manufacturing engineering (66%), and civil engineering (64%).[18] Policies that introduce sweeping, AI-driven scrutiny risk deterring top talent from choosing the United States for higher education, exacerbating the already declining trend in international student enrollment. For instance, the Institute of International Education (IIE) reported an already 15% drop in enrollment between 2019 and 2021, most likely linked to the consequences of the restrictions imposed by the COVID-19 pandemic.[19] While numbers have begun to recover, restrictive policies like "Catch and Revoke" could reverse those gains.

Figure 2. Doctorate Recipients by Field and Citizenship Status (2020)

nec = not elsewhere classified.
NOTES: Excludes respondents who did not report citizenship. Other social sciences includes anthropology, political science and government, sociology, and other social sciences.
Source: National Center for Science and Engineering Statistics, Survey of Earned Doctorates, 2020.

The Brain Drain Effect and Global Competition for Talent

Beyond the economic consequences, the policy exacerbates a long-term challenge: brain drain. The United States has historically been a magnet for global talent, offering post-graduation work opportunities through programs like Optional Practical Training (OPT) and the H-1B visa.[20] However, as visa policies grow more restrictive, highly skilled students and researchers will more likely be looking elsewhere. Canada, for example, has aggressively expanded its immigration pathways, implementing the Tech Talent Strategy, which allows employers to fast-track work permits for highly skilled workers in STEM fields.[21] Meanwhile, Germany's Blue Card has made it easier for international graduates to gain residency and employment.[22]

If AI-driven visa revocations discourage students from studying in the United States, the long-term effects could be dire for industries that rely on high-skilled immigrants. A 2023 study by the National Bureau of Economic Research found that while immigrants make up just 16% of U.S.-based inventors, they contribute nearly 25% of all patents and patent citations.[23] They are also responsible, directly or indirectly, for 36% of total U.S. patent output.[24] Given that immigrants drive a significant share of innovation, policies that reduce the number of international STEM graduates could slow patent production and weaken the country's technological and economic competitiveness.

While other nations attract global talent, some of the United States' largest sources of international students are also developing competitive alternatives at home. Countries like China and India, traditionally major sources of outbound students to the United States, are heavily investing in their own higher education infrastructure, as well as in research and innovation, which are key components of technological and economic competitiveness. China's Double First-Class initiative is aimed at elevating domestic universities to global standards, while India's National Education Policy 2020 seeks to establish international research collaborations to retain domestic talent.[25, 26] If U.S. policies continue to push away international students, other countries will step in to fill the gap, shifting the global balance of innovation and economic competitiveness away from the United States.

Balancing National Security and Civil Liberties

While national security remains paramount, policy approaches must strike a balance between safety and fundamental freedoms.

As international students navigate an increasingly precarious landscape, the United States must ensure that technological advancements in enforcement do not come at the cost of fundamental freedoms and due process. Over reliance on AI for visa revocations, without adequate human review or appeals processes, risks unfairly penalizing individuals based on faulty algorithms. To prevent wrongful targeting, strict oversight must be implemented, reinforcing due process protections and ensuring that visa holders have clear pathways to challenge erroneous revocations. Higher education institutions should also take an active role in safeguarding student rights, advocating for fair treatment, and ensuring transparency in visa-related decisions. Additionally, policymakers must consider the broader impact of visa policies on the U.S. economy and global standing in research and innovation. Other nations have recognized the value of foreign talent and are actively adapting policies to attract and retain skilled students. If the United States fails to do the same, it risks losing its competitive edge in the global economy.

Conclusion

The "Catch and Revoke" initiative raises urgent concerns about AI-driven surveillance and its implications for civil liberties. Without appropriate safeguards, such policies risk transforming AI into a tool of suppression rather than security. The United States faces a critical choice: whether to harness AI responsibly or risk allowing it to erode the very freedoms it seeks to protect. Beyond the immediate risks to individual rights, the broader consequences could reshape America's role as a global leader in education and innovation. Ensuring transparency and oversight in AI-driven enforcement is not just about protecting civil liberties—it is a strategic imperative for maintaining the nation's commitment to due process, its economic strength in higher education and technology, and its standing on the world stage.

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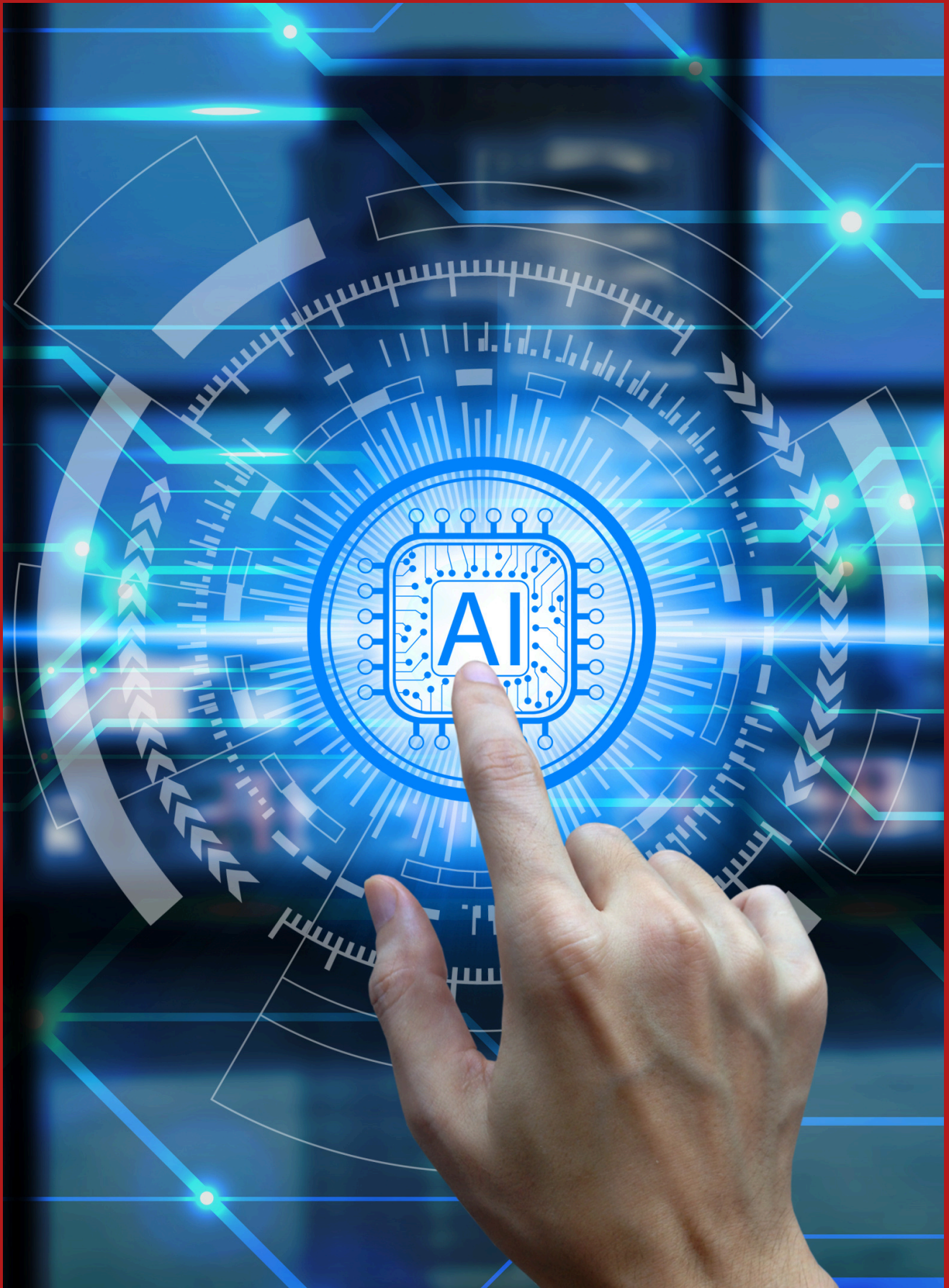
The Power-Hungry Nature of Generative Artificial Intelligence and Nuclear Energy Solutions

Camille Brady is a fourth-year undergraduate student pursuing a B.S. in Policy Analysis and Management within Cornell University's Jeb E. Brooks School of Public Policy. She is dedicated to public service and fostering a sustainable world, with a primary interest in the energy sector and the environment. Camille is a Senior Advisor for Cornell Policy Group, as well as an Institute of Politics & Global Affairs Scholar. This year, she is a student analyst within the State Policy Advocacy Clinic, working to promote good governance across New York State.

In the rapidly evolving landscape of technological innovation, generative artificial intelligence (AI) emerges as a transformative force, bringing with it an unprecedented demand for electrical power. The computational intensity of AI models creates a significant challenge for U.S. energy infrastructure that pushes the boundaries of grid stability and sustainability. In the face of escalating energy instability, industry leaders must ask: What is the most strategic way to ensure long-term economic resilience, minimize environmental disruption, and establish a reliable grid that will fortify U.S. energy independence for the next half-century?

The answer? Nuclear energy.

Why is Generative Artificial Intelligence So Energy-Intensive?

Artificial intelligence models consume extraordinary amounts of electricity due to the complexity of their data processing requirements. In fact, a single prompt on ChatGPT can require nearly ten times more electricity than the most complex Google search.[1] In 2023 alone, data centers consumed approximately 4.4 percent of total U.S. electricity, with projections indicating this could escalate between 6.7 and 12 percent by 2028.[2]

The energy demands of artificial intelligence systems stem from a combination of intensive computational and cooling requirements. During the training phase, models are fed vast datasets to learn patterns and behaviors.[3] This is an extremely resource intensive process that requires continuous, round-the-clock operation of graphics processing units, or GPUs.[4] These GPUs run at high capacity for extended periods of time, generating significant heat and consuming considerable amounts of electricity.[5] Even after training is complete, energy usage remains high, as responding to prompts still relies on powerful GPU processing.[6] Compounding this energy burden is the substantial water consumption needed to cool AI-driven data centers. The specialized chips used in AI systems produce far more heat than traditional computing units, requiring advanced cooling infrastructure that often depends on water-intensive strategies.[7] Together, the combined energy and water pressures of AI development and utilization pose a serious challenge for building sustainable and environmentally responsible technologies.

U.S. Grid Stability: Let's Get Down to Brass Tacks

The U.S. electrical grid, while historically reliable, is struggling to keep pace with demand due to its aging infrastructure. The Federal Energy Regulatory Commission predicts there will be a 4.7 percent increase in the demand for electricity within the next five years, which is equivalent to adding 'another California' to the national grid.[8] Without proper grid rehabilitation, U.S. electricity demand could surpass supply in just two years,[9] and it will become increasingly difficult for transmission capacity — the distribution of electricity — to keep up with power generation.[10]

Load growth — referring to electricity demand — remained relatively stagnant for the past two decades.[11] However, this trend is rapidly changing as supply begins to outpace traditional consumption behavior, and it is increasingly difficult to forecast how much electricity is necessary to power this sector of the tech industry. The U.S. Department of Energy anticipates that data center load growth could double or triple by 2028, driven primarily by the expanding landscape of artificial intelligence.[12] Renewable energy sources like solar and wind, while crucial for sustainable grid development, cannot independently meet the consistent and wide power demands of artificial intelligence. Solar and wind are inherently intermittent and are therefore unable to meet round-the-clock technology requirements — a limitation that highlights the critical need for a more stable and reliable energy solution.

Nuclear Energy: A Strategic Solution

In response to these mounting challenges, the tech industry is increasingly turning to nuclear energy as a promising alternative. Advanced nuclear technologies, including small modular reactors, microreactors, and non-light water reactors, are rapidly evolving to improve efficiency and address safety concerns.[13]

Unsurprisingly, tech giants are the ones leading this nuclear energy transition. Google, for example, is partnering with Kairos Power to purchase energy from small modular reactors, with the goal of powering its AI-driven data centers entirely with this technology by 2030.[14] Amazon, on the other hand, strategically procured a data center powered by the Susquehanna Steam Electric Station in Pennsylvania, demonstrating their commitment to nuclear energy integration.[15] Furthermore, Microsoft's acquisition and planned reopening of Three Mile Island — site of the worst nuclear accident in U.S. history — further punctuates the industry's nuclear energy pivot in powering their artificial intelligence.[16] Bill Gates also co-founded TerraPower, a nuclear innovation company that develops advanced nuclear technologies, including the Natrium reactor. This reactor put TerraPower on the map as a leader in nuclear energy for its enhanced safety measures, cost-effectiveness, and reliability.[17] With growing interest and investment in nuclear power, this is an extremely positive step in the U.S. clean energy transition.

As expected, the appeal of nuclear energy extends beyond mere power generation. It also offers a low-carbon electricity source with minimal greenhouse gas emissions that aligns with the net-zero carbon initiatives of most tech companies.[18] Additionally, the recent enactment of the ADVANCE Act of 2024, which passed with bipartisan support, makes investment in advanced nuclear technologies more accessible by streamlining regulatory processes and promoting public-private partnerships in nuclear energy production.[19] By reducing administrative barriers and expediting the timeline from inception to completion,

investing in nuclear energy is becoming an attractive alternative for tech companies across the country.

Symbiotic Potential: AI and Nuclear Energy

What if artificial intelligence could simultaneously serve the nuclear field — the very source enabling it to operate? Remarkably, the relationship between artificial intelligence and nuclear energy is not unidirectional. In fact, this system that "[mimics] human logic" holds significant promise for streamlining nuclear energy operations and ensuring a stable, uninterrupted electricity supply.[20] While machine learning is already being applied within the nuclear energy industry, the integration of more advanced AI technologies offers the potential to elevate operational efficiency to new heights. By analyzing real-time data on consumer demand, weather patterns, and equipment performance, AI can enable smarter decision-making and more responsive adjustments in power generation.[21] One especially promising application is the use of digital twins — virtual models that mirror the behavior of physical nuclear systems.[22] These simulations allow operators to test scenarios, predict maintenance needs, and optimize system performance without physical intervention, thereby enhancing both safety and reliability.[23] Furthermore, AI can revolutionize nuclear security by strengthening radiation detection systems, automating routine tasks, and freeing up human operators to focus on higher-value problems.[24] This technological synergy presents an encouraging avenue for advancing both the clean energy transition and artificial intelligence sectors in tandem with one another.


Policy and the Future

Looking forward, significant monetary investments will be required to meet emerging energy demands. Goldman Sachs estimates that the energy sector will need to invest approximately $50 billion by 2030 to adequately meet rising energy demand from artificial intelligence.[25] Recognizing this challenge, the United States Department of Energy under the Biden Administration began crafting strategies to help data centers transition toward cleaner energy sources.[26] One such initiative is the Onsite Energy Program, which connects manufacturers with regional and technical experts to support the development of electricity generation and storage technologies at their facilities.[27] By enabling onsite energy production and storage, tech companies can lower costs by purchasing electricity when it is most economical and reduce the strain they place on the broader grid.[28] With growing consumer demand for zero-carbon energy, such efforts represent a meaningful step.

At the same time, bipartisan momentum is building around nuclear energy as a scalable, carbon-free solution. A notable example is the Accelerating Reliable Capacity (ARC) Act (S.5421), introduced by Senator James Risch (R-ID), which compliments the ADVANCE Act of 2024. The ARC bill seeks to expand investment in advanced nuclear technologies by mitigating financial risks and promoting long-term grid stability.[29] While the high upfront costs and construction uncertainties of nuclear plants have historically discouraged investors, the ARC Act addresses this by establishing a limited risk-reduction program that acts as a financial backstop to help cover unforeseen costs.[30] This measure offers investors greater confidence and could accelerate the development of clean, reliable energy infrastructure.

Although it remains unclear how the Trump Administration will approach grid resilience and data center expansion, nuclear energy continues to enjoy relative bipartisan support. Even if fossil fuels remain a major part of the energy mix in the short-term, nuclear energy offers a viable path forward to sustainably power AI infrastructure and support the continued growth of data centers nationwide.

Conclusion

As generative artificial intelligence continues to reshape the tech terrain, addressing its energy requirements remains paramount. The United States stands at a critical juncture where strategic energy investment and technological innovation will determine its global leadership in domestic energy production. The symbiotic relationship between artificial intelligence and nuclear energy offers a compelling pathway forward. By embracing advanced nuclear technologies and leveraging AI's optimization capabilities, the country can develop a more sustainable and resilient energy ecosystem. However, this hinges on the willingness of policymakers to be proactive on AI regulation and the adaptability and sustainability of the energy grid — something that remains to be seen.
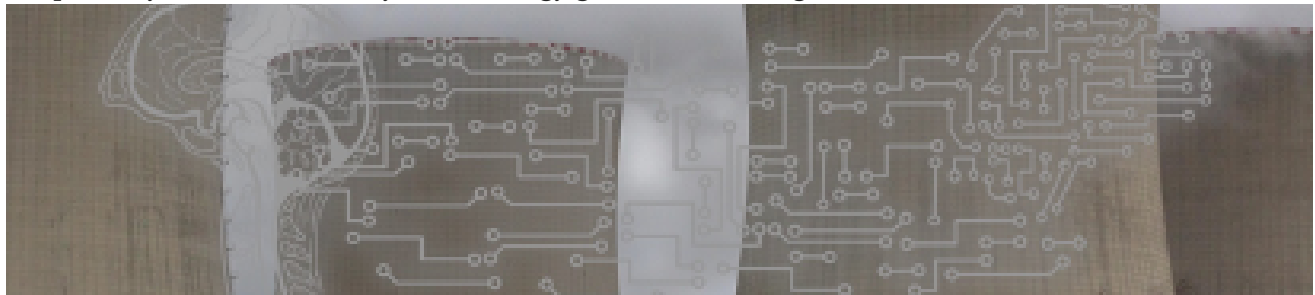
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The Perils of Self-Regulation: Can AI Govern Itself Without Federal Oversight?

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Artificial intelligence (AI) is rapidly transforming economic structures, civic engagement, and government operations. As algorithms are embedded in critical decision-making processes across sectors, questions of oversight have moved to the forefront of policy discourse. The Biden administration's Executive Order 14110 established a framework for ethical AI governance balancing innovation with transparency, safety, equity, and civil rights protections.[1,2]

The subsequent repeal of this executive order under the Trump administration[3]—replaced by a directive prioritizing deregulation[4]—has reignited debates about the capability of corporate self-regulation.[5] This shift creates a divide between innovation and public interest protections. Meanwhile, as the European Union and China implement robust AI regulatory regimes, the lack of clear U.S. standards may undermine international confidence in American technologies.[6,7]

This article questions the feasibility of corporate AI self-regulation, analyzing its limitations, and historical parallels. It further examines the broader geopolitical, and economic implications of fragmented oversight, emphasizing how regulatory gaps may exacerbate inequalities, deepen public mistrust, and diminish U.S. leadership in setting global norms. The article concludes by offering a series of policy recommendations to ensure that AI advances in alignment with democratic values, and the collective public good.

The Illusion of Self-Regulation in High-Risk Innovation

The notion that industry can regulate itself is appealing in high-tech sectors marked by rapid innovation. Advocates argue that companies have incentives to maintain public trust and avoid reputational damage. However, this optimistic view underestimates the structural pressures that prioritize short-term profits over long-term responsibility. AI companies operate amid fierce competition and minimal oversight, where voluntary ethics initiatives function more as reputational insurance than genuine safeguards.

As AI systems present unique governance challenges, many models operate as "black boxes," with decision processes opaque even to their own developers.[8] This lack of transparency limits oversight and accountability. AI systems evolve as they interact with data, introducing risks that static internal policies cannot anticipate. Market pressures often disincentivize restraint, even when companies recognize potential harms.

Lessons From History: When Self-Regulation Falls Short

History offers ample evidence about the limits of self-regulation. The 2008 financial crisis exemplifies this pattern. Financial institutions assured regulators that complex products such as credit default swaps were well-managed and internally regulated. Regulatory bodies, swayed by the rhetoric of innovation and market efficiency, were slow to intervene. The result was a global market collapse. The U.S. Securities and Exchange Commission later acknowledged that the self-regulation of investment banks contributed to the crisis, as institutions took on opaque, risky investments without sufficient oversight.

Risks extend beyond finance. In 1983, a Soviet early-warning system mistakenly detected incoming U.S. missiles, triggered by a primitive AI driven system misinterpreting satellite data. A nuclear disaster was only avoided because a human operator questioned the AI's output and refused to escalate the situation.[9] This near-disaster, now part of the AI Incident Database,[10] highlights the dangers of unregulated AI even in its early stages. Today, much more sophisticated technologies make decisions that affect millions—often without human oversight. In the 2010s, unregulated social media algorithms amplified misinformation and contributed to democratic destabilization. A 2021 Pew Research study found that experts widely believe these algorithmic systems exploited user vulnerabilities and exacerbated societal division,[11] with some describing the digital public sphere as a "dumpster fire" of misinformation, rage, and manipulation.[12] Whether in biased facial recognition, faulty healthcare algorithms, or exploitative generative AI, the harms are no longer theoretical—they are real, growing, and disproportionately impacting vulnerable populations.[13]

Geopolitical Consequences: From Rule Maker to Bystander

The geopolitical consequences of a weak AI oversight are profound. Historically, the United States has played a pivotal role in setting the global framework for emerging technologies, from the development of nuclear technology to the establishment of international standards for the internet.[14] This leadership position has allowed the U.S. to shape global norms, safeguard democratic values, and secure its technological advantage. However, without assertive federal leadership, other nations and blocs—most notably the European Union,[15] for example, seeks to create a risk-based framework for AI systems, placing strict limitations on technologies deemed to pose unacceptable societal threats.

Meanwhile, the U.S. remains fragmented and deferential to corporate interests, weakening its ability to shape global AI norms, and risks the concession of moral and technological leadership to competitors. Without federal coordination, subnational efforts form a patchwork of inconsistent regulations, often vulnerable to legal preemption and corporate lobbying. China presents a particularly stark contrast with U.S. values, having consolidated its centralized, state-drive AI governance framework that prioritizes state control over individual freedoms. This model is actively being exported across the Global South, raising serious concerns about the spread of authoritarian practices. The divergence between Europe, and China highlights the urgency for the United States to assert a clear, values-based regulatory approach. Without it, the United States risks becoming a bystander in shaping the future of AI.

Economic Implications of Inadequate Oversight

The assumption that deregulation naturally creates innovation oversimplifies the complex economic dynamics of AI markets. Without clear federal standards, companies may deploy unproven AI products, undermining public trust. A 2024 Pew study found that seventy percent of Americans lack confidence in companies to use AI responsibly[16]—a warning sign for market stability. Inadequate oversight also threatens global competitiveness. The EU AI Act requires strict conformity assessments to sell high-risk AI products.[17] U.S. companies failing these requirements may lose access to critical markets, creating costly barriers to international trade. Deregulation also deepens market concentration as dominant firms absorb risks while smaller innovators are edged out. Without intervention, tech monopolies consolidate power at the expense of broader public benefit.

Recommendations

1. Create an independent AI oversight agency with rulemaking and enforcement authority, empowered to evaluate systems, conduct audits, and intervene when necessary.[18]

2. Require transparency and explainability, especially in high-risk domains like healthcare and criminal justice. Developers should document training data, algorithmic logic, and system performance. The White House Blueprint for an AI Bill of Rights highlighted the importance of "notice and explanation" to safeguard individual rights.[19]

3. Implement rigorous pre-deployment risk assessments conducted by third parties, evaluating social, economic, and civil rights implications before systems enter real-world environments. Drawing from the EU's tiered risk-based approach, these evaluations would enhance accountability while reducing downstream harm.[20]

4. Align U.S. regulatory approaches with international standards, particularly frameworks like the EU AI Act,[21] to create mutual trust and simplify cross-border compliance.

5. Fund open-source AI research and prioritize investment in socially beneficial projects, supporting underrepresented academic institutions and initiatives addressing inequities in healthcare, education, labor, and environmental justice.[22]

6. Update labor laws and consumer rights to protect workers from algorithmic harms and ensure individuals are notified when AI systems make consequential decisions affecting employment, credit, healthcare, or surveillance.[23] Legal frameworks must provide avenues to challenge such decisions through human review and independent redress.

7. Create a national AI audit framework for ongoing, post-deployment evaluation to ensure AI systems perform safely and equitably over time.[24]

Conclusion

AI has transformative potential, but without safeguards, it can deepen inequality and undermine democratic norms. History shows markets alone cannot prevent systemic failures. The United States now stands at a crossroads where inaction risks ceding leadership to regimes with vastly different values. Federal oversight is not a barrier to innovation but a prerequisite for responsible progress. Through enforceable standards and global partnerships, the U.S. can guide AI development in a way that serves both innovation and the public good.

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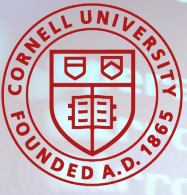
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