March 15, 2025

Mr. Kirk Dohne
Acting Director
Networking and Information Technology Research and Development (NITRD) National Coordination Office (NCO)
National Science Foundation
Washington, DC 20024

RE: U.S. AI Action Plan Request for Information

Dear Mr. Dohne:

On behalf of our nation's venture capital (VC) investors and the entrepreneurs they support, the National Venture Capital Association (NVCA) is pleased to write to express our support and offer perspectives in the development of the Trump Administration's AI Action Plan. Artificial intelligence (AI) is one of the most transformative technologies of the 21st century, unlocking new frontiers in biotechnology and drug discovery, energy security, national defense and beyond. The U.S. has long been the world leader in AI development, driven largely by its robust startup ecosystem and world-class research institutions.

However, America cannot take this leadership position for granted as global competition in AI innovation is rapidly intensifying. DeepSeek's sudden emergence in the large language model space has given China a powerful tool to catalyze AI adoption in the country and boost economic growth. Meanwhile, the European Union (EU) has launched InvestAI, an initiative to mobilize €200 billion for investment in AI, including a new European fund of €20 billion for AI gigafactories.

It is imperative for the federal government to take an active role in harnessing the startup ecosystem to ensure the U.S. remains at the forefront of global AI innovation. Failure to do so will have profound implications on America's economic growth potential, national security, and global influence. Strategic federal investments through direct funding initiatives such as grants, tax incentives, and government contracts can alleviate the resource-intensive nature of AI development and help AI startups scale rapidly. Policymakers have taken initial steps to recognize the importance of AI investment through programs like the National Artificial Intelligence Initiative and the Defense Advanced Research Projects Agency (DARPA)'s AI research efforts. Expanding these initiatives and ensuring that resources reach early-stage AI startups will help maintain American leadership in AI innovation.

Venture Capital's Role in Driving AI Innovation

Commercializing frontier technologies like AI is a high-risk and long-term commitment. AI development is resource-intensive, requiring significant funding for research, computing infrastructure, and talent acquisition. Research indicates that up to 75% of VC-backed startups do not return capital to investors.[1] The VC community is uniquely suited to finance leading-edge AI innovation due to its longer time horizons and equity-based financial model.

Venture capitalists create partnerships with institutional investors to combine the capital held by pension funds, endowments, foundations and others with their talent and expertise to make high-risk, long-term equity investments into innovative young companies. Venture capital has the longest asset holding periods of any investment class. The standard VC partnership agreement lasts for ten years with extensions that in practice mean the partnerships generally run even longer.

VC-backed companies are generally nascent entities that use equity investment provided by VC funds to conduct research, expand workforces, build new facilities, and focus on growth activities that create long-term value. A survey of VC-backed companies by NVCA showed that "four out of five respondents spend at least 70% of their budgets on two activities, wages and compensation and research and development (R&D)."[2] The survey also found that nearly one in five VC-backed companies spend at least 85% of their budget on R&D. VC-backed companies are also able to attract some of the best technological talent in the world through the widespread use of equity compensation. By sharing ownership of the company with their workforces, these companies draw motivated workers willing to bet on themselves.

In addition to patient working capital, VCs work alongside their portfolio companies to mentor the executive teams, offer strategic advice (often from seats on the company's board), and serve as critical resources to bridge the divide between the lab and the market. A VC's participation often serves as a conduit to further growth capital opportunities and resources needed to scale, a key factor for expanding innovation opportunities to new regions and building local ecosystems. In some instances, VCs will even work directly with universities to license technologies, re-run experiments, pull complementary technologies together, recruit the founding team, and essentially build the company from scratch.

Since 2020, over 13,600 U.S.-based AI startups have raised $369 billion in VC investment. In 2024 alone, 4,200 American AI startups raised $101.3 billion in VC funding, up from 3,500 companies receiving $59.8 billion in 2023.[3] Startups are at the heart of AI breakthroughs, driving advancements in machine learning, robotics, natural language processing, and other AI subfields. Roundabout uses AI-driven computer vision to analyze traffic and identify near-miss or collision risks in real time, helping cities protect pedestrians and reduce road fatalities. Their platform delivers actionable insights that inform better infrastructure

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[1] *Why Most Venture-Backed Companies Fail,* available at https://www.fastcompany.com/3003827/why-most-venture-backed-companies-fail

[2] *Venture Capital at Work,* NVCA, available at Venture Capital Investment at Work - National Venture Capital Association - NVCA

[3] Pitchbook data, available at https://pitchbook.com/

decisions, optimize operations, and ultimately, save lives.

Insilico Medicine is a pioneering AI-driven biotech company that specializes in using deep learning for drug discovery, biomarker development, and aging research. Their AI platform accelerates the identification of novel drug targets and the design of new molecules, significantly reducing the time and cost of bringing new therapies to market. Verusen is the only AI platform purpose-built to optimize inventory, spend and risk for asset-intensive manufacturers' MRO (maintenance, repair, operations) supply chain. The startup leverages AI to help enterprises dramatically reduce their working capital costs by harmonizing and optimizing indirect manufacturing inventory. Nametag is an AI-powered platform offering integrated identity verification and account protection solutions designed to help companies combat social engineering attacks. Leveraging its proprietary Deepfake Defense, Nametag combines cryptography, biometrics, and AI to protect against advanced threats like digital injection attacks and deepfakes.

Federal Investment in AI Research & Development

For more than 75 years, robust government funding for foundational research has been a driving force behind U.S. leadership in groundbreaking technologies such as semiconductors, mobile communications, the Internet, biotechnology, and the Global Positioning System (GPS). Early U.S. investment in semiconductor research, for instance, spanned nearly two decades and enabled the development of transistors and integrated circuits that propelled the electronics revolution of the 1970s and beyond. Meanwhile, DARPA sponsored the Internet's precursor, ARPANET, for over 20 years—long before its commercial potential was recognized—laying the technological foundations for today's global digital infrastructure.

These initiatives reflect a broader pattern: by channeling support through agencies like DARPA, the National Science Foundation (NSF), and the National Institutes of Health (NIH), the federal government spurred breakthroughs that the private sector later refined and brought to market. This interplay between public funding for fundamental research and private-sector innovation has cemented America's status as a global leader in technology, fueling economic growth, job creation, and transformative societal benefits.

Fostering innovation through sustained investment in AI basic research and infrastructure, as well as providing regulatory clarity, will position the federal government to be an effective partner to startups advancing cutting-edge AI technologies. Unlike large technology companies with vast resources, many startups lack the capital and infrastructure to conduct cutting-edge AI research. Strategic federal investment in R&D can help bridge this gap in several key ways.

Increasing federal funding for AI R&D programs at agencies including NSF, the Department of Energy (DOE), and the National Institute of Standards and Technology (NIST) will fuel open-source research that startups can leverage to build new AI-driven solutions. Federal grants and programs such as Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) provide non-dilutive capital to help startups experiment with novel AI models and applications without giving up equity. We ask the Administration to

uphold this important bipartisan program and are working with Congress as they enter into reauthorization negotiations. Maintaining support and expanding the utility of these programs to ensure that the most innovative companies receive funding, and ensuring transparency in the award process for these programs will help support companies developing AI innovation across critical industries.

Expand Access to Federal Government AI Data

AI innovation requires vast amounts of data for training models, with tech incumbents having a structural advantage due to access to large pools of data. The federal government can play a pivotal role in leveling the playing field for startups by aggregating data silos across key sectors such as healthcare, energy technology, and infrastructure into a common repository that facilitates better coordination and intelligence sharing across agencies. Significant AI advances such as the ImageNet Large Scale Visual Recognition Challenge (ILSVRC) in 2012, which was a breakthrough in the use of deep neural nets for image recognition, have been made through AI challenges using publicly available datasets.[4] Drug discovery has also accelerated with AI applied to publicly available data.[5] We recommend developing an AI challenge in healthcare, biotech or energy that would leverage this initial data repository and help solve critical national challenges.

Within healthcare, the National Institutes of Health (NIH) maintains extensive biomedical and health-related data. Anonymized patient data, genomic datasets, and clinical trial results data can empower AI-driven medical research, improve early disease detection, and accelerate drug discovery while ensuring privacy protections. In energy technology, the U.S. Department of Energy (DOE) is a powerhouse of scientific data, housing some of the most advanced datasets in energy, climate science, materials research. Expanding access to this data can help AI models optimize energy grids, improve disaster response efforts, and enhance climate forecasting. Furthermore, datasets on traffic patterns, public transit usage, and energy consumption can allow AI-driven solutions to improve urban planning and optimize logistics.

By centralizing and expanding access to vast federal government data sets, the Administration can help level the playing field for startups and foster AI innovation to advance drug discovery, energy security, and economic growth while reinforcing the U.S. as the global leader in artificial intelligence.

Build AI Research Infrastructure

AI development is heavily dependent on access to high-performance computing, cloud resources, and high-quality datasets. The government can create public-private partnerships to provide startups with access to computing power (e.g., through federally funded cloud credits) and curated datasets for AI model training, ensuring that smaller companies can compete with

[4] Bryan House, "2012: A Breakthrough Year for Deep Learning" (July 2019), https://medium.com/neuralmagic/2012-a-breakthrough-year-for-deep-learning-2a31a6796e73
[5] Artificial intelligence-driven health research innovations: Protein sciences," Medicine Plus (September 2024), https://www.sciencedirect.com/science/article/pii/S2950347724000392

well-funded tech giants. In particular, a National AI Research Resource (NAIRR) would enable a wide range of researchers to participate in AI and help bring the full force of the American innovation ecosystem to bear on AI development.

NSF is currently developing a pilot project for the NAIRR, but a full implementation of the NAIRR requires appropriations for FY2025 and beyond. We urge the Administration to partner with lawmakers on full congressional authorization and approval. In particular, the CREATE AI Act authorizes the development of the NAIRR to be overseen by NSF through a program management office. [6] An interagency steering committee would also be created. The day-to-day operations of the NAIRR, including procurement of computational and data resources needed to do AI research, would be run by an independent non-governmental entity. This operational entity, which would be selected through a competitive process, would be an educational institution or federally funded research and development center (FFRDC), or a consortium of universities or FFRDCs.

After the establishment of the NAIRR, researchers at institutions of higher education (and certain small businesses that receive executive branch funding) would be eligible to use the NAIRR for AI research, with time allocations on the NAIRR selected through a merit-based process. Time allocations on the NAIRR could also be rented for researchers who need more resources. Appropriations for the NAIRR will occur through the normal annual appropriations process. NSF would be the primary entity for appropriations and would fund the NAIRR through the $1 billion per year authorized to NSF under the National AI Initiative Act. Other agencies can contribute in-kind resources to the NAIRR (e.g., supercomputer resources or data resources) based on their respective appropriations

Establish AI Testbeds and Regulatory Sandboxes

AI startups face greater policy uncertainty when developing technologies in regulated industries like healthcare, finance, and autonomous systems. The federal government can expand AI testbeds and regulatory sandboxes where startups can test and refine their AI models in real-world environments. This would allow for faster validation of AI applications while ensuring compliance with evolving regulations.

By investing in AI R&D programs, the federal government can lower the barriers to entry for AI startups, promote innovation across sectors, and strengthen U.S. leadership in artificial intelligence. These efforts will ensure that groundbreaking AI technologies continue to emerge from the U.S. startup ecosystem, fostering economic growth and global competitiveness.

Access to Talent

One of the greatest challenges – and opportunities – facing our nation today is marshaling the vast talent resources needed to maintain a global leadership edge in AI. While AI is rapidly transforming industries, there is a large and growing shortage of professionals with expertise in

[6] CREATE AI Act, https://www.congress.gov/bill/118th-congress/senate-bill/2714

AI, machine learning, and data science. Many startups struggle to find talent that aligns with their needs, hampering AI innovation and adoption.

Historically, the U.S. has been the primary destination for VC funding. However, the U.S. share of global venture capital has dropped from 84% in 2004 to 47% in 2022 as entrepreneurs have access to multiple funding options beyond Silicon Valley. [7] Countries like China, the U.K., and the European Union are heavily investing in AI startups, reducing the necessity for founders to base their businesses in the U.S. Toronto has become the third-fastest growing tech hub in North America, behind only Silicon Valley and New York.[8]

In particular, China has made AI dominance a national priority and is aggressively recruiting top scientists through well-funded initiatives such as the Thousand Talents Plan and its AI Development Plan. By offering high salaries, substantial research funding, and access to cutting-edge infrastructure, China is successfully drawing top AI researchers away from the U.S. This not only strengthens China's AI capabilities, but it also poses security and economic risks. Without a strong AI talent pipeline, the U.S. risks falling behind in crucial AI-driven industries such as cybersecurity, autonomous systems, healthcare, and finance.

Harness International Entrepreneur Parole

International entrepreneurs' and students' strong motivation to launch their startup businesses in the United States is a key untapped resource to create new opportunities for Americans in this frontier technology area. Immigrants have founded or cofounded nearly two-thirds of the top AI companies in the United States, and 42% of the top U.S.-based AI companies had a founder who came to America as an international student.[9]

International Entrepreneur Parole (IEP) is currently one of our best options to bring innovative entrepreneurs to our country and allow those who are already here to stay. U.S. immigration policy that pushes away entrepreneurs is one reason why the U.S. share of global venture capital has fallen below 50%. If it were functioning at its full potential, IEP could fill the gap in pathways for entrepreneurs and has the potential to create a million jobs over ten years.[10]

Unfortunately, the unpredictably lengthy processing times for IEP applications continue to make it difficult for prospective applicants to access the program. It is our understanding that very few entrepreneurs have applied, and even fewer have been approved, despite the Department of Homeland Security (DHS) initially estimating that as many as 2,900

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[7] "NVCA Yearbook," National Venture Capital Association (March 2023), https://nvca.org/nvca-yearbook/
[8] "Tech-30 2024," CBRE (November 2024), available at https://www.cbre.com/insights/reports/tech-30-2024#:~:text=Source%3A%20U.S.%20Bureau%20of%20Labor%20Statistics%2C%20Statistics%20Canada%2C%20CBRE,%2C%20each%20more%20than%2040%25.
[9] Stuart Anderson, "AI and Immigrants," *National Foundation for American Policy*, June, 2023, https://nfap.com/research/new-nfap-policy-brief-ai-and-immigrants/
[10] Caleb Watney, Lindsay Milliken, and Doug Rand, "Long Live The International Entrepreneur Rule," *Progressive Policy Institute* (February 2021), https://innovationfrontier.org/long-live-the-international-entrepreneur-rule/.

entrepreneurs would qualify annually.[11] It is vital that the IEP application process be as efficient and smooth as possible in order for the program to achieve its full potential. Time is a resource that is in short supply for founders, their investors, and their teams, so decision timelines must be predictable and efficient enough to secure commitments.

To that end, we are asking DHS to take any necessary steps to significantly reduce - and provide more visibility into – the processing times for these applications. We recognize that the low number of applications can make establishing average processing times difficult. However, DHS could provide additional predictability through, at minimum, establishing and publishing goal processing times, as it has for other form types and programs,[12] so that potential applicants have greater clarity when deciding to pursue IEP. DHS could also provide clear guidance about IEP applicants' ability to request expedited processing and recognize that these applicants – especially those in AI and other critical and emerging sectors – readily meet the criteria for expedited case adjudication given the importance of this work to the United States.

Close the AI Skills Gap

Furthermore, the U.S. must address the growing AI skills gap by investing in education and workforce development to enable Americans to thrive in an AI-driven economy. New research shows that China has by some metrics eclipsed the United States as the biggest producer of AI talent, with the country generating almost half the world's top AI researchers. By contrast, about 18% come from U.S. undergraduate institutions.[13] To remain a global leader, the U.S. must build a robust talent pipeline through AI-focused education and workforce programs.

Federal investments in AI programs in community colleges, vocational schools, and K-12 education will make AI careers more accessible. Upskilling and reskilling initiatives, such as AI apprenticeship programs and vocational training, will help workers transition into AI-related jobs, particularly in industries like manufacturing, finance, and healthcare. Dedicated AI training hubs in key industries like cybersecurity, healthcare, and energy security could increase talent supply while advancing innovation in strategic sectors.

Expanding the pipeline of AI PhD talent is critical for maintaining U.S. leadership in artificial intelligence, yet universities face significant challenges in doing so—particularly when federal funding is uncertain or declining. The Administration's cuts to research funding and policy unpredictability created a chilling effect on long-term AI investments in academia, making it more difficult for universities to expand graduate-level AI instruction and research programs.

At the same time, many top AI researchers are drawn to industry jobs at tech giants where funding is more secure, rather than staying in academia where research funding is uncertain. To maintain U.S. leadership in AI, the federal government must create strong

[11] "International Entrepreneur Rule," Homeland Security Department (January 2017), https://www.federalregister.gov/documents/2017/01/17/2017-00481/international-entrepreneur-rule.
[12] "Reducing Processing Times," USCIS, https://egov.uscis.gov/processing-times/reducing-processing-backlogs.
[13] "The Global AI Talent Tracker 2.0," Paulson Institute (May 2024), https://macropolo.org/digital-projects/the-global-ai-talent-tracker/

incentives for universities to grow the pipeline of AI PhDs through sustained funding, clear policies, and a commitment to attracting top talent.

Create a Startup Visa and Reform H-1B Visas

As global competition for AI talent intensifies, over 30 countries have implemented Startup Visa programs, making it easier for AI entrepreneurs and researchers to relocate and build companies outside the U.S. Countries like Canada, the U.K., France, and Singapore have structured these visas to attract highly skilled AI professionals, offering them fast-track pathways to residency, financial incentives, and streamlined regulatory support. As AI is a field where expertise is in limited supply, the U.S. risks losing top talent if it does not provide competitive immigration policies that make it easy for AI innovators to live and work in the country.

We urge the Administration to partner with Congress to create a Startup Visa to attract the world's best entrepreneurs to our shores to create American jobs.[14] To qualify, the foreign-born founder would need to create full-time U.S.-based jobs and attract significant investment. A Startup Visa is necessary because there is currently no visa category designed for foreign entrepreneurs who want to found companies in the U.S. and deliver all the benefits of new company formation to our country, forcing entrepreneurs to fit square pegs in round holes and use visa categories that are challenging for startups. For example, the H-1B visa requires an employer-employee relationship and therefore is very difficult for a founder to obtain. Oftentimes, an entrepreneur enters the U.S. on an H-1B visa but spends many years attached to that employer before receiving a green card that allows the individual to found a company.

In addition, we encourage the Administration to partner with Congress to reform the H-1B visa program to fuel the growth of AI startups. While H-1B visas are not ideal for immigrants who want to immediately found companies in the U.S., they are still critically important for the success of immigrant founded companies because they provide valuable work experience and widen the pipeline of potential immigrant startup founders. Raising the annual cap of H-1B visas issued each year to educated and highly skilled immigrants who work in jobs that require a substantial amount of technical and specialized training is fundamental to generating more successful immigrant-founded companies.

Currently, the annual numerical cap for H-1B visas is 65,000 new visas (plus 20,000 additional for graduate degree holders from U.S. universities) each fiscal year. Congress should raise the cap on these visas and enact reforms that better allow high-growth startups to utilize the program. Research has shown that prior experience in the specific industry in which an entrepreneur decides to found their company predicts much greater rates of entrepreneurial success. Allowing highly skilled immigrants to first gain valuable experiences as employees increases the odds that more successful startups are created in the U.S.[15]

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[14] "Immigrant entrepreneurs can drive economic growth in the pandemic recovery," NVCA (March 2021), available at https://nvca.org/wp-content/uploads/2021/03/NVCA_Visa_Reforms_book_FINAL.pdf

[15] Pierre Azoulay et al., "Age and High-Growth Entrepreneurship," American Economic Review: Insights 2020, 2(1): 65-82, available at https://www.kellogg.northwestern.edu/faculty/jones-ben/htm/Age%20and%20High%20Growth%20Entrepreneurship.pdf

By making these changes and continuing to strengthen pathways for immigrant innovators, the United States will have the opportunity to attract the world's best entrepreneurs to our shores, creating American jobs and maintaining our position as the leader in global AI innovation.

Merger Policy

NVCA is concerned about efforts to restrict acquisitions due to the impact on the venture ecosystem and VC-backed companies. In particular, the FTC's refocused enforcement efforts around acquisitions of VC-backed startups by large technology companies have had a chilling effect on the startup ecosystem, making it harder for startups to be acquired, elongating the timeline for liquidity, and increasing the regulatory and legal costs of an acquisition.

We were disappointed to see Andrew Ferguson, Chair of the Federal Trade Commission (FTC), announce that the FTC and DOJ's joint 2023 Merger Guidelines will "serve as the framework" for the agency's M&A review analysis. NVCA previously submitted comments in response to the proposed merger guidelines which significantly raise the risk of small company acquisitions being blocked for theoretical reasons that have little underpinning in reality and misrepresent nascent firms that fall well short of having monopoly power as being "dominant."[16]

For VC-backed companies, there are effectively three outcomes: standalone company (often via initial public offering); M&A; or bankruptcy. Many entrepreneurs and their investors begin the company-building process with the hope of creating a standalone, public company. However, in most cases an IPO is not possible, and the preferred exit opportunity becomes an acquisition by another company. Ultimately, more than 10 times as many startups are acquired than complete an IPO.[17]

These acquisitions contribute to the health of the startup ecosystem, as entrepreneurs who realize liquidity through the sale of their company regularly go on to found new, innovative companies, and often invest in other startups as angel investors or VCs. Furthermore, acquisitions help power the returns of VC funds, thereby allowing VCs to raise new funds and invest in the next generation of entrepreneurs. This "flywheel effect" is one of the key drivers of dynamism in our economy.

Additionally, acquisitions have become more common as public markets have become more hostile to smaller companies. The reality is most young companies cannot realistically achieve the size and scale necessary to survive in today's public markets. It has become more expensive and significantly more challenging to manage public companies; much of the infrastructure that supported small companies going public has disappeared; and the public

[16] "National Venture Capital Association's Comments to the U.S. Department of Justice and the Federal Trade Commission's Draft Merger Guidelines," National Venture Capital Association (September 2023), https://nvca.us19.list-manage.com/track/click?u=b278f77c9f298162660fceae5&id=8aaaf8f099&e=57d2f44364

[17] "NVCA Yearbook," National Venture Capital Association (March 2024) at 32-33, https://nvca.org/wp-content/uploads/2024/05/2024-NVCA-Yearbook.pdf

markets have unfortunately become more short-term in nature.

Preserving pathways to liquidity for startups is critical to sustaining robust VC investment in the next generation of AI startups. We urge the FTC and DOJ to abandon misguided Merger Guidelines which could drive startup activity outside of the U.S. and risk forfeiting America's leadership position in global AI innovation.

Conclusion

To sustain our global leadership in AI and out-compete China, the U.S. must engage with and support startups at the leading edge of AI innovation, strategically invest in AI R&D, and develop an AI-ready workforce. By harnessing the unmatched innovative capacity of the U.S. startup ecosystem, America can drive innovation, enhance economic competitiveness, and safeguard its position as the world leader in AI. We are grateful for your continued engagement with our industry, and we look forward to partnering with you as the AI Action Plan is developed and implemented.

Sincerely,

Bobby Franklin
President and CEO