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General Comment

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I appreciate the opportunity to contribute to the development of the 2025 National Artificial Intelligence Research and Development Strategic Plan. As someone deeply involved in the AI ecosystem - across both research and industry - I believe the next phase of U.S. leadership in AI depends not just on scaling existing methods, but on strategically investing in overlooked infrastructure, talent, and system-level innovation.

Below I outline four strategic areas where Federal investment will be decisive for long-term leadership and inclusive progress:

1. Diversifying AI Architectures Beyond Transformers
Transformer-based architectures have dominated progress over the past five years. While impactful, they are not a one-size-fits-all solution - and scaling them further is not synonymous with AI progress. Federal funding should support:

Research into post-transformer architectures, including neurosymbolic systems, retrieval frameworks, spiking neural networks, causal modeling, and biologically inspired learning mechanisms.

Development of evaluation methods that benchmark reasoning, interpretability, and energy efficiency, not just parameter count or token throughput.

Exploration of multi-agent and embodied systems that go beyond static model paradigms, enabling systems that can act, adapt, and collaborate.

If the U.S. wishes to lead the next wave of foundational advances, we must invest in architectural diversity - before commercial incentives allow it to emerge.

2. Democratized Access to AI-Ready Data and Training Infrastructure
Today's innovation bottleneck is not research talent - it's access. The ability to train, evaluate, and iterate on cutting-edge AI is largely limited to a small handful of institutions that have raised billions in private capital. This restricts public-interest research, slows fundamental discovery, and reinforces inequality in innovation.

To counteract this trend, I recommend:

Establishing federally supported data commons, with high-quality, curated, and documented datasets for scientific, medical, social, and governmental domains - where privacy and equity are essential.

Launching a national cloud credit and compute grant program to provide access to training and inference resources for academic and

independent researchers, startups, and nonprofits.

Incentivizing the open release of datasets generated by federally funded projects, along with tools for their preprocessing, annotation, and validation.

A vibrant AI ecosystem cannot exist if only a few players have the keys to experimentation.

3. Privacy-Preserving AI via Synthetic Data
If AI is to serve public good, we must make privacy and data protection a first-order concern - not a tradeoff. Synthetic data represents one of the most promising tools to resolve the tension between innovation and privacy, especially in regulated sectors like healthcare, finance, and defense.

I strongly support:

Investment in research and standards for evaluating synthetic data quality, utility, and privacy guarantees.

Funding for open-source synthetic data tools, enabling reproducibility and responsible usage in both public and private domains.

Use of synthetic data to support rare-event modeling, diversity augmentation, and simulations in domains where real-world data is insufficient, biased, or restricted.

Synthetic data is not a substitute - it's a catalyst for safe and equitable AI deployment.

4. Lowering the Barrier to Become a Government Technology Partner
Startups and small R&D companies are often at the forefront of AI innovation, yet face enormous friction when trying to collaborate with government. Long procurement cycles, complex compliance burdens, and limited visibility into use cases hinder the very partnerships that could accelerate state-of-the-art capabilities.

To address this, I urge the government to:

Establish fast-track, small-scale pilot programs for emerging AI companies to test solutions within agencies, with limited bureaucracy.

Create a federal AI startup registry, enabling agencies to easily discover, engage, and evaluate new technologies through a standardized onboarding process.

Offer technical matchmaking mechanisms, where AI startups can find public sector data, challenges, and collaboration opportunities - mirroring DARPA-style approaches on a more accessible scale.

U.S. AI leadership requires speed and experimentation. Government must become an enabler of innovation, not an obstacle.

Closing Note
These four areas - next-generation architectures, democratized infrastructure, privacy-preserving innovation, and startup-government collaboration - will determine whether the U.S. remains at the forefront of AI for the next decade.

Respectfully,
GR