Federal Policy Priorities for Ensuring Wyoming and Rural Leadership in the AI Future

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The opinions expressed are those of the authors and do not represent the views of the organizations with which they are affiliated.

Introduction

Widespread access to Artificial Intelligence (AI) tools is rapidly transforming every economic sector, from agriculture and energy to healthcare and education. Wyoming has the opportunity to lead in AI innovation and application for rural areas, helping to better support the nearly one-fifth of Americans who live in these areas and contribute 10 percent of the country's gross domestic product. The persistence of the digital divide has shown that, without targeted rural-focused AI programs, the next wave of technological advances will once again leave these communities behind. By prioritizing AI advancements that directly address rural challenges, Wyoming can play a key role in ensuring that AI-driven progress benefits all Americans, not just those in urban centers.

Wyoming is a rural state with a strong culture of grit, innovation, and self-reliance. As a leading producer of coal, natural gas, oil and wind energy, the state plays a critical role in national energy security. Additionally, tourism and agriculture serve as important economic drivers and revenue producers, while healthcare and education are critical services that support all citizens and sustain rural communities. AI has the potential to drive growth in these key industries, while strengthening rural economies and enhancing educational opportunities, and healthcare services.

The University of Wyoming (UW), a land-grant institution, is the only 4-year university in Wyoming, with a mission that emphasizes teaching, research, and outreach. It provides accessible, affordable and high-quality higher education; engages in research and creative activities that extend the frontiers of knowledge; and serves the people of Wyoming and beyond through engagement and outreach. The university ensures broad access to academic programs and lifelong learning and promotes economic development and cultural enrichment for Wyoming and the world. With state support, UW recently launched a comprehensive AI Initiative to prepare for the growing influence of AI, with a focus on integrating AI into key industries such as agriculture, engineering, energy, tourism, wildlife conservation, and rural healthcare, ensuring that AI contributes to sustainable growth and enhances the quality of life in Wyoming. The initiative building on UW investments in creating research centers in areas of importance for Wyoming, including Controlled Environment Agriculture, Wildlife and Technology, Quantum Information Science and Engineering, Rural Futures, and Energy Materials.

Federal and state AI policies must account for the unique challenges and opportunities in rural communities to ensure that rural states like Wyoming are not left behind in the AI economy. Policies must also ensure that AI systems do not leave out or disadvantage rural communities. Thoughtful investment in AI for rural industries, rural healthcare and rural education will strengthen our state workforce, support small businesses, and secure Wyoming's role in the national AI landscape.

This document outlines key AI policy priorities tailored to Wyoming's and other rural regional needs, ensuring AI serves as a tool for student success, workforce readiness, and research innovation:

1. ***Expanding rural AI education, workforce, and economic development;***
2. ***Enabling and prioritizing AI applications in rural areas;***
3. ***Strengthen AI research and innovation in rural areas;***
4. ***Building energy-efficient AI infrastructure to serve the nation; and***
5. ***Encourage secure and transparent AI.***

Under each of these priorities, we outline concrete steps that the federal government can take as part of an AI Action Plan to prevent a future "AI Divide" and to ensure that AI tools are effectively leveraged for critical sectors predominantly centered in rural areas (e.g., energy, extraction, tourism). We advocate for continued investment in Big Ideas from Small Places, and we believe that this opportunity for visioning federal AI policy is an excellent opportunity to enact that.

Policy Priority 1: Expanding Rural AI Education, Workforce, & Economic Development

- ***Enhance access to AI tools in higher education,*** including AI-driven advising and tutoring platforms designed to support students in rural regions.
    - Expand federal funding for AI-driven student success tools to ensure that students in rural, remote, and under-resourced areas have access to the resources needed to develop skills for a competitive workforce.
- ***Expand AI education programs in rural areas.*** Ensure the University of Wyoming and its community college partners are preparing students for AI careers. Support similar rural institutions nationwide in providing the same opportunities as those in urban and coastal areas.
    - Expand Pell Grant eligibility and workforce retraining funds into AI-related certificate programs that will upskill rural workers.
    - Increase funding from NSF and other agencies for AI education grants that target rural states and communities, ensuring rural-serving universities like UW receive direct support.
- ***Enhance K-12 AI and computing education across the country.*** Create a strong national talent pipeline by ensuring students in rural areas gain early exposure to AI and AI-enhanced technologies to best prepare them for technical careers, college, and workforce success.
    - Support national organizations and their state affiliates (e.g. NSTA-UW) and State Departments of Education to establish AI curriculum guidance and resource development.
    - Allocate federal funding (e.g., NSF grants) specifically for rural university-school partnerships to support professional learning on education-focused AI tools, STEM integration, and teacher development. Dedicate resources for continuing education in AI, providing federal funding and guidance on essential skills and tools relevant to rural and place-based education.
- ***Develop AI apprenticeships and industry partnerships in rural sectors.*** Incentivize development of experiential learning opportunities that align with workforce needs, especially in rural sectors such as agriculture, tourism, education, and resource extraction.
    - Increase federal funding for universities to develop and initiate credit bearing student experiential learning programs, such as the NSF Data Science Corp program.
    - Provide federal tax incentives for businesses that create AI apprenticeships and training programs in rural areas.
- ***Expand AI training for businesses and entrepreneurs.*** Help rural business owners thrive in the digital economy with a focus on national competitiveness.
    - Fund AI training programs, grants for rural entrepreneurs adopting AI, AI innovation hubs and other AI workforce development through the Small Business Administration, Department of Commerce, Department of Labor and other relevant agencies.
    - Offer tax credits to small businesses that implement AI-driven solutions for efficiency, marketing, customer engagement and other business improvements.

    - Support university-industry partnerships to help local companies working in markets important in rural areas to adapt and compete in a rapidly changing landscape.
  - ***AI scholarships & fellowships:*** Establish federal AI scholarships and fellowships that target students in rural states to make sure there is equal access to AI careers.

Policy Priority 2: Enabling and Prioritizing AI Applications in Rural Areas

1. ***Support AI innovation for rural communities*** through the National Artificial Intelligence Research Resource (NAIRR) and open-source software tools.
    - Expand the National Artificial Intelligence Research Resource (NAIRR) to include dedicated funding for AI research targeting rural applications.
    - Provide federal funding to support the development of open-source software tools empowering regional and research-emerging universities, and rural businesses to drive AI innovation.
2. ***Prioritize investment in AI for rural healthcare improvements.***
    - Provide federal grants to fund research into AI-driven telehealth solutions, enabling rural clinics and hospitals to enhance diagnostic capabilities, remote monitoring, and patient management.
    - Expand federal support for AI applications that address critical rural health issues, including suicide prevention, addiction recovery, obesity and chronic diseases, loneliness mitigation, food insecurity and limited access to healthcare.
    - Invest in convergent research that integrates AI with both emerging and existing technologies to enhance healthcare accessibility and effectiveness in rural areas.
3. ***Advance AI applications for natural resource industries and public land management.***
    - Invest in AI solutions designed to optimize timber and mineral extraction, enhance all-of-the-above energy solutions, and create win-wins for rural workforces struggling under economic shifts. These solutions, once developed, should be used to power decision-making on public lands, a key driver of socio-economic development in places like Wyoming.
4. ***Develop low-cost, low-maintenance AI models for rural infrastructure.***
    - Invest in AI solutions designed for rural utilities, transportation departments, and emergency services, ensuring they can deploy AI without requiring extensive technical expertise or large-scale data infrastructure.
5. ***Provide federal tax credits and grants for AI in agriculture, ranching, and mining.***
    - Incentivize private industry to adopt cutting-edge AI and data-driven technologies to improve efficiency and enhance output from traditionally rural industries like agriculture, ranching, and mining.
    - Ensure that these technologies *synergize* with existing workforces, rather than replacing them. This may include efforts contained in other policy priorities laid out here, including upskilling, enhanced research and development, and attention to security and transparency in data-driven systems.

Policy Priority 3: Strengthen AI Research & Innovation in Rural Areas

1. ***Increase federal and state funding for AI research*.** Support innovation at Wyoming's only public university and ensure that rural states are fully included in research investments.
    - Require NSF, DOE, and USDA AI research funding to include dedicated grants for rural-focused AI research, ensuring distribution beyond current major tech hubs and funded AI Institutes.
    - Direct NSF, DOE and NIH to provide programs for research funding through EPSCoR/IDeA that help retain early-stage researchers working in AI areas in rural and regional universities.
    - Ensure that bodies that direct research spending, e.g. National Science Board, PCAST, et al, include appropriate rural representation.
    - Support research on both securing AI systems against cyber threats and leveraging AI to enhance cybersecurity, particularly for rural infrastructure, small businesses, and public institutions with limited cybersecurity resources.
    - Align AI research funding policies with existing federal programs, such as EPSCoR, to ensure support for rural and underfunded states.
2. ***Encourage interdisciplinary AI research*** in agriculture, energy, food security, tourism and environmental science to address Wyoming-specific challenges, such as water management and land conservation.
    - Provide NSF, DOE, USDA NIH, and other federal agency AI research funding that is targeted at real-world applications of AI that best address regional challenges including rural issues and opportunities.
    - Direct and support non-traditional users of AI and domain experts in areas of rural priority (e.g., via state wildlife agencies or state health departments), acknowledging that some of the most important breakthroughs in AI basic science and applications, including healthcare, have emerged from unexpected venues.
3. ***Support public-private research collaborations.*** Bring industry expertise into academic AI initiatives and ensure that rural communities directly benefit from AI advancements.
    - Expand federal matching grants to incentivize AI research partnerships between universities and local industries in Wyoming.
4. ***Ensure AI-driven research includes rural scenarios.*** Enhance productivity and sustainability in Wyoming's key industries and provide benefit to Wyoming communities.
    - Establish a Federally funded AI research center in Wyoming focused on energy, agriculture, rural health, and/or rural economic development
    - Strengthen regional AI-focused innovation hubs that unite local entrepreneurs, the university, colleges, and industry to drive sustainable economic growth of rural communities.
    - Prioritize research into systems that facilitate AI adoption and use in rural locations and other areas without large technologist workforces.
5. ***Ensure AI policies support open research*** and do not restrict academic freedom or scientific exploration, allowing Wyoming institutions to lead in AI research.

- Advocate for AI policies that uphold academic freedom, ensuring research can explore cutting-edge AI innovations without excessive restrictions or proprietary constraints.
- Position Wyoming as a key player in national AI initiatives by emphasizing its role in open-source AI development and ensuring fair access to AI advancements.

Policy Priority 4: Build Energy Efficient AI Infrastructure to Serve the Nation

1. ***Promote AI-driven energy efficiency*** in rural data centers and infrastructure.
   - Support AI applications that improve energy efficiency in data centers and critical infrastructure, reducing costs and enhancing reliability in rural communities.
   - Provide federal grants and tax credits for AI-driven energy efficiency projects in rural energy-producing industries, including optimizing power generation, improving resource extraction efficiency, and reducing operational costs in energy production.
2. ***Build national AI data centers in low-energy-cost*** regions like Wyoming that leverage the state's energy resources while maintaining efficiency and building new rural jobs.
   - Establish federal incentives for AI data centers in suitable low-energy-cost regions like Wyoming.
3. ***Expand broadband and digital infrastructure*** to ensure rural areas can fully participate in the AI economy and take advantage of AI-driven advancements.
   - Build on the NSF and Wyoming investment in the NCAR-Wyoming Supercomputing Center to deploy a large-scale AI-resource to support research and academic-industry partnerships in rural states.
   - Increase FCC and USDA funding for rural broadband deployment, prioritizing high-speed connectivity to AI research and education centers.
4. ***Support AI research in Wyoming's resource industries***, such as precision agriculture, smart ranching, and advanced mining technologies that create safer and more efficient operations.
   - Prioritize federal research grants through NSF, DOE, and USDA for AI innovations that support Wyoming's rural economy and natural resource industries, such as AI-driven precision agriculture, smart ranches, water management, improved resource management and extraction in the coal, oil, gas, and mining industries.
   - Expand federal infrastructure funding to support AI-integrated transportation, logistics, and supply chain improvements for Wyoming's resource industries.

Policy Priority 5: Encourage Secure and Transparent AI

1. ***Encourage responsible AI development and deployment*** that prioritizes fairness, security, and explainability, ensuring AI solutions serve the interests of rural communities effectively.

- Expand federal funding for privacy-preserving, trustworthy, auditable, and explainable AI research to enhance data security, transparency, and fairness of AI infrastructure.
- Expand funding for *AI literacy and training initiatives* for rural communities and businesses, ensuring communities can effectively adopt AI technologies.
- Support research to develop guidelines for fairness, security, and risk mitigation in AI models, ensuring secure and equitable deployment in key application sectors like healthcare and education.

2. ***Support policies that ensure AI benefits rural communities*** and do not exacerbate digital divides, recognizing that rural areas require tailored AI solutions.
    - Establish specific federal guidelines addressing the unique challenges of data privacy and security in rural areas protecting individuals and small businesses from data misuse.
    - Increase federal funding for AI infrastructure expansion in rural areas, including broadband connectivity, computing power, localized data centers, and security and risk management frameworks. These investments will enable rural communities to utilize AI for enhanced accessibility, telehealth services, and smart agriculture solutions.
    - Direct federal agencies and AI companies to periodically assess the impact of AI on rural communities, ensuring AI adoption enhances life rather than displaces rural population.
3. ***Develop AI governance frameworks*** that balance innovation with ethical considerations in higher education, public services, and small businesses.
    - Direct NIST and OSTP to continue developing AI safety, security, and transparency standards that protect businesses and individuals while allowing the flexibility needed to enable rural innovation and economic growth.
    - Direct federal agencies to create AI compliance and reporting standards for AI developers and deployers to document AI decision making processes, security measures, and potential impact including rural population, ensuring accountability.
4. ***Ensure AI policies protect rural jobs*** by focusing on AI solutions that enhance rather than replace Wyoming's skilled workforce.
    - Expand federal funding for AI workforce development initiatives in rural areas, including technical training, and up-skilling programs, to ensure individuals can adapt to AI-enabled industries.
    - Require federally funded AI projects to assess their impact on rural employment, ensuring AI development and deployment enhances rather than displaces rural population.
    - Introduce federal tax incentives for businesses that adopt AI solutions that enhance and support human labor rather than replacing it.

Conclusion

AI presents a generational opportunity to strengthen rural economies, including Wyoming's, by enhancing educational outcomes, improving workforce readiness and providing new AI applications that support rural economies. Policymakers must take proactive steps to ensure that

AI development and deployment align with Wyoming's values—expanding educational access, investing in applied research, preparing students and low-skilled workers for AI-driven careers and empowering rural communities to harness AI for economic growth, resilience, and long-term national competitiveness.

Rural states cannot afford to be left out of the AI revolution. By focusing on innovation, workforce development, and responsible governance, Wyoming can lead the way in AI while staying true to its core principles of educational excellence, economic opportunity, and rural self-reliance.