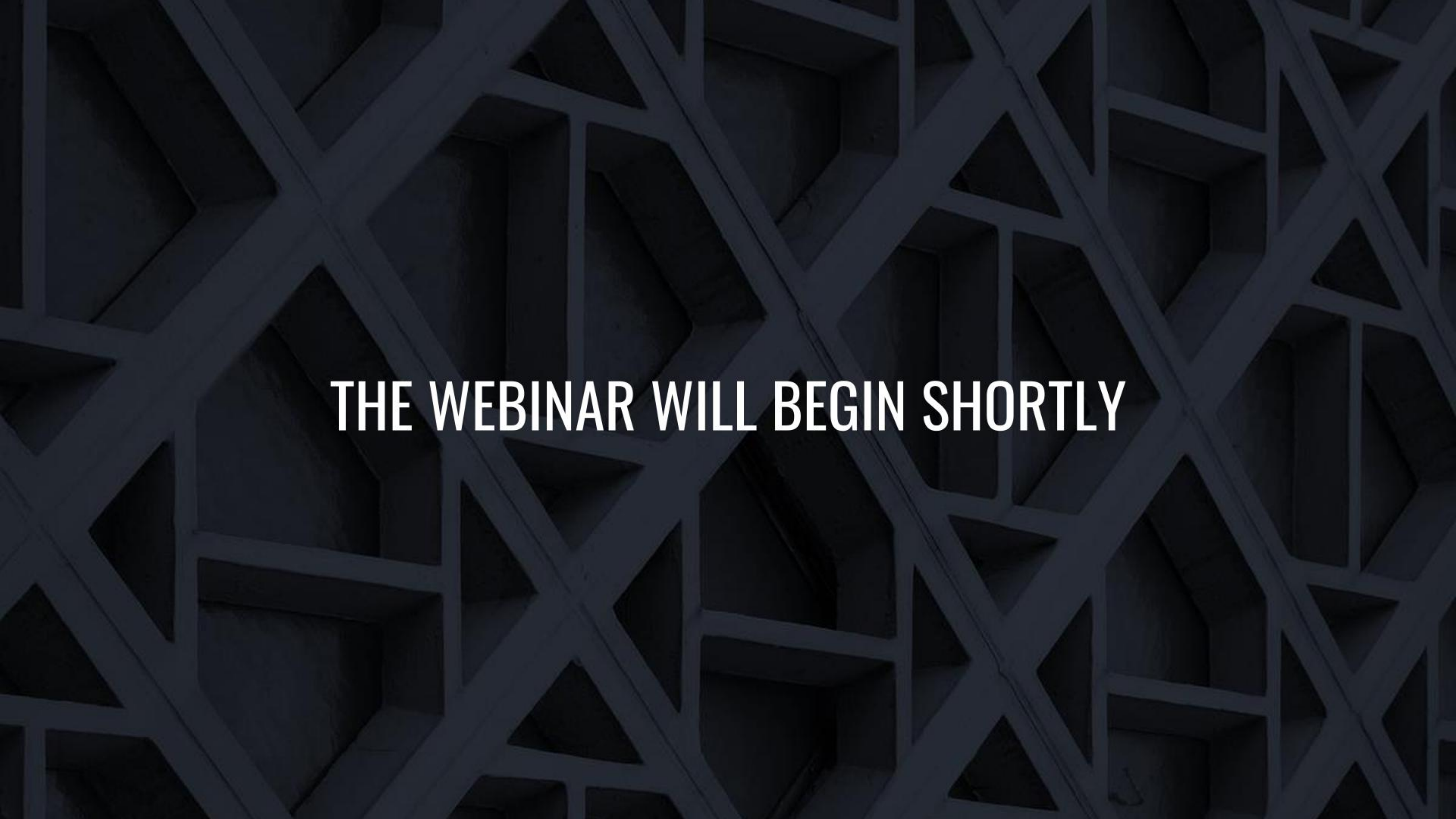




THE WEBINAR WILL BEGIN SHORTLY



FUNDING LANDSCAPE FOR AI & MACHINE LEARNING

A WEBINAR FROM HANOVER RESEARCH

JANUARY 25, 2024



WEBINAR LOGISTICS

PRESENTATION LENGTH

25-minute presentation followed by Q&A

Q&A

Please ask questions using the Q&A function in the Zoom toolbar. Presenters will respond in real time, where possible, and we will respond to as many of the remaining questions as time allows during the Q&A.

RECORDING & SLIDES

All registrants will receive a copy of the recording, including the slides.

PRESENTERS



CLINTON DOGGETT

SENIOR GRANTS ADVISOR

MFA, Creative Nonfiction
GOUCHER COLLEGE

B.A., English Writing and Communication
UNIVERSITY OF PITTSBURGH

SPECIALIZES IN

- ✓ Grantsmanship Training
- ✓ Federal Funding Landscape
- ✓ Prospect Research

ON A PERSONAL NOTE...



Wannabe
Runner



Music
lover



Zoo
resident



Foreign
service brat



MALLORY WATERS

GRANTS ADVISOR

MA, Political Science
UNIVERSITY OF NEVADA, LAS VEGAS

BA, Political Science
UNIVERSITY OF SAN DIEGO

SPECIALIZES IN

- ✓ Project Management
- ✓ Grantsmanship Training
- ✓ Large-Scale Proposals

ON A PERSONAL NOTE...



Avid Reader



Born and
Raised in
Vegas



Interested
in Virology



Loves to
Draw

A dark, textured background featuring a network of interconnected nodes and lines, resembling a molecular or biological structure. An orange rectangular box is positioned on the left side, containing the word AGENDA in white capital letters.

AGENDA

Federal Priorities

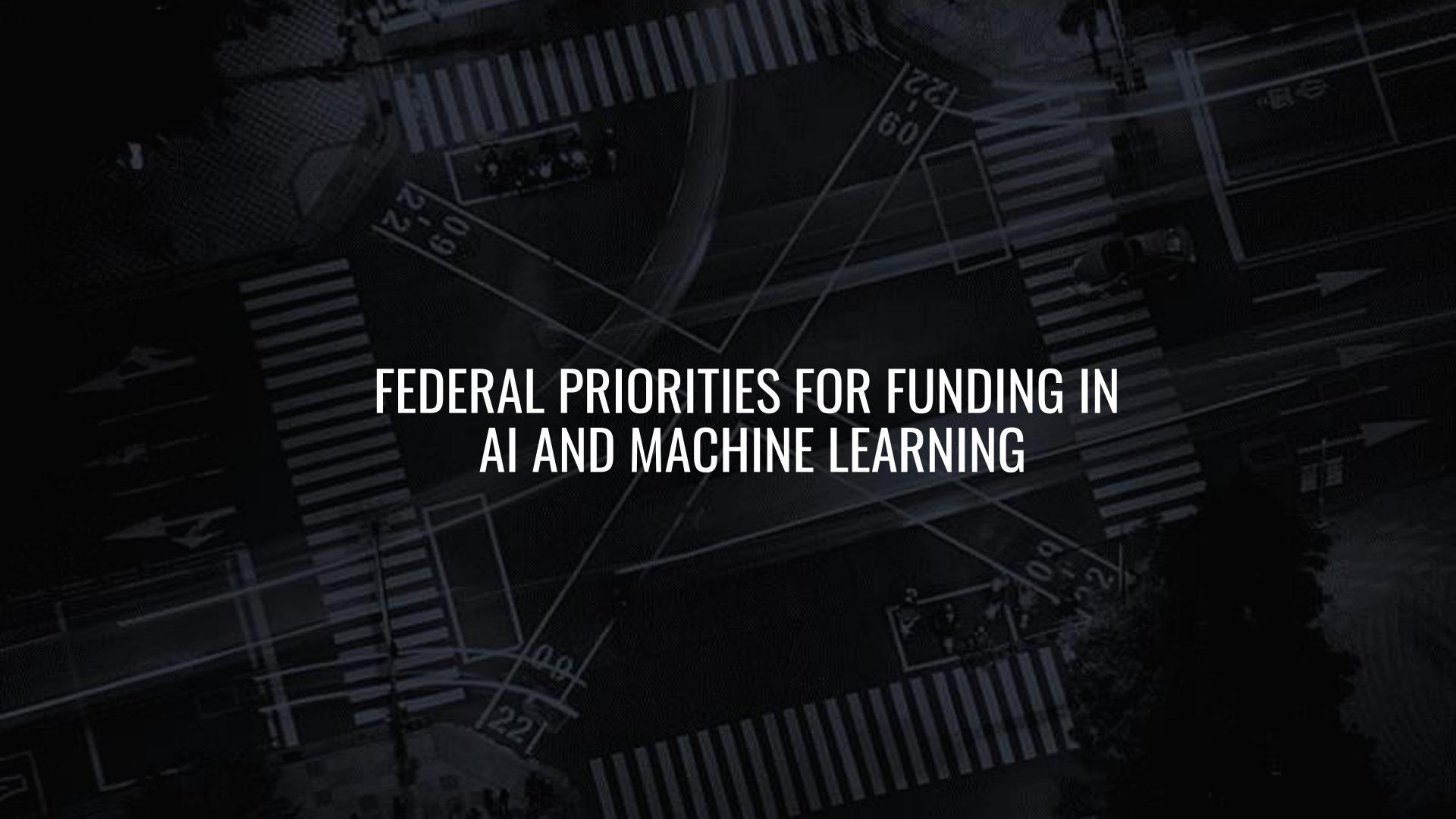
**Agency Priorities & Notable
Programs**

Non-Federal Funding



Our recent **Grants Calendar on AI and Machine Learning** provides a snapshot of notable opportunities with deadlines in the coming months.



An aerial, high-angle photograph of a city street intersection, likely in New York City, showing crosswalks, street markings, and a few vehicles. The image is dark and serves as a background for the text.

FEDERAL PRIORITIES FOR FUNDING IN AI AND MACHINE LEARNING

Executive Order on Safe, Secure, and Trustworthy Artificial Intelligence

OCT 2023

Expansive set of guidelines to advance the safe, secure, and trustworthy development and use of AI:

- New Standards for AI Safety and Security
- Protecting Americans' Privacy
- Advancing Equity and Civil Rights
- Standing Up for Consumers, Patients, and Students
- Supporting Workers
- Promoting Innovation and Competition
- Advancing American Leadership Abroad
- Ensuring Responsible and Effective Government Use of AI

National AI R&D Strategic Plan

MAY 2023

- **Strategy 1:** Make **Long-Term Investments** in Fundamental and Responsible AI Research
- **Strategy 2:** Develop Effective Methods for **Human-AI Collaboration**
- **Strategy 3:** Understand and Address the Ethical, Legal, and Societal **Implications of AI**
- **Strategy 4:** Ensure the **Safety and Security of AI Systems**
- **Strategy 5:** Develop Shared Public Datasets and Environments for **AI Training and Testing**
- **Strategy 6:** Measure and **Evaluate AI Systems** through Standards and Benchmarks
- **Strategy 7:** Better Understand the National **AI R&D Workforce Needs**
- **Strategy 8:** Expand Public-Private **Partnerships to Accelerate Advances in AI**
- **Strategy 9:** Establish a Principled and Coordinated Approach to **International Collaboration in AI Research**

CHIPS & Science Act of 2022

AUG 2022

- Authorized about **\$280 Billion** to bolster U.S. Semiconductor industry and make large investments in technology infrastructure, research, and development
- Aimed to advance U.S. global leadership in the **technologies of the future**
- Created or authorized additional **investment in programs focused on AI R&D** through:
 - National Science Foundation
 - Department of Commerce
 - Department of Energy
 - Department of Defense
 - Others

An aerial, high-angle photograph of a city street intersection. The image is dark and grainy, with a focus on the geometric patterns of the road. White crosswalks with parallel stripes are visible at several angles. Road markings, including numbers like '22' and '60', are scattered across the pavement. The overall tone is monochromatic and technical, suggesting a theme of infrastructure or data analysis.

AGENCY PRIORITIES & NOTABLE PROGRAMS IN AI AND MACHINE LEARNING

NATIONAL SCIENCE FOUNDATION



Long history of funding AI and Machine Learning dating back to the 1960s

CURRENT PRIORITIES

Innovation in AI methods

Research to **understand/develop systems** that can sense, learn, reason, communicate and act in the world

Democratizing AI research resources

Enabling **access to resources** to engage the full breadth of the nation's talent in AI innovation.

Trustworthy and ethical AI

Developing AI that is **safe, secure, fair, transparent and accountable**, while ensuring privacy, civil rights and civil liberties

Education and workforce development

Creating **educational tools**, materials, fellowships and curricula to enhance learning and foster an AI-ready workforce

Partnerships to accelerate progress

NSF partnering with other agencies, industry and nonprofits

NATIONAL SCIENCE FOUNDATION

NOTABLE PROGRAMS



National Artificial Intelligence Research Institutes

- Large awards (up to \$20M) to fund the development of **new AI Institutes**
- **Multisector effort** in partnership with other federal agencies (USDA, NIST, DHS, DOD) and **private/industry partners** (Google, Amazon, Simons Foundation, Capital One, Intel, etc.)
- Current competitions focused on **astronomical sciences** (FY 2024), **materials research** and **new methods for strengthening AI** (FY 25)
- **Previous focus areas** for funded Institutes:
 - Human-AI Interaction and Collaboration
 - AI for Advances in Optimization
 - AI and Advanced Cyberinfrastructure
 - AI in Computer and Network Systems
 - AI in Dynamic Systems
 - AI-Augmented Learning
 - AI-Driven Innovation in Agriculture and the Food System

NATIONAL SCIENCE FOUNDATION

NOTABLE PROGRAMS



Dozens of NSF programs either incorporate or explicitly focus on AI/ML

Science of Learning and Augmented Intelligence

Research on principles, processes and mechanisms of learning and about augmented intelligence

Expanding AI Innovation through Capacity Building and Partnerships (ExpandAI)

Capacity-development projects for MSIs to partner within the National AI Research Institutes to broaden participation in AI research, education and workforce development

Collaborations in Artificial Intelligence and Geosciences (CAIG)

Development and adoption of innovative artificial intelligence (AI) methods to increase scientific understanding of the Earth system

Scholarships in STEM (S-STEM)

Scholarship and support for academically talented low-income students, including those attaining degree in critical fields such as artificial intelligence and machine learning



National Institutes
of Health

Guided by FAIR principles
– making data **findable**,
accessible,
interoperable, and
reusable.

CURRENT PRIORITIES

Recent priorities have included **making data usable with AI and machine learning applications.**

- **ODSS-Led Initiatives**
 1. Addressing the Workforce Gap in Data Governance for AI in Biomedicine;
 2. Ethics, Bias, and Transparency for People and Machines; and
 3. Improving the AI-readiness of Existing, IC-Supported Data
- **Bridge2AI**
 - Generating new flagship biomedical and behavioral datasets that are ethically sourced, trustworthy, and primed for AI and ML use.
- **AI/ML Consortium to Advance Health Equity and Researcher Diversity**
 - Coordinated partnerships to increase the participation and representation of researchers and communities in the development of AI/ML models.
- **Institute and Center-Funded Initiatives**
 - Across all 27 ICs, AI/ML technologies are being developed and promoted.



National Institutes
of Health

NOTABLE PROGRAMS

- **Bridge2AI:** Multiple opportunities to develop **data generation projects**, to integrate, disseminate, and evaluate data generation projects, and more.
- **Smart and Connected Health:** Interagency program between NIH and NSF to promote high-risk/high-reward research for transformation in the biomedical AI/ML space.
- **Artificial Intelligence for Alzheimer's Disease:** Aims to create and develop advanced AI methods and apply them to genomic, imaging, and cognitive data.
- **HEAL Initiative:** Aims to test the feasibility of Survive-OD, an AI driven platform to integrate complex data sources to predict relapse and recommend intervention strategies.

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)



Home of new
U.S. Artificial
Intelligence
Safety Institute

CURRENT PRIORITIES

- Conducting **fundamental research to advance trustworthy AI technologies** and understand and measure their capabilities and limitations.
- Establishing benchmarks and developing data and **metrics to evaluate AI technologies**.
- Leading and participating in the development of **technical AI standards**.
- Hosting the **NIST Trustworthy & Responsible AI Resource Center** providing access to a wide range of relevant AI resources.

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)



**Measurement
Science and
Engineering
(MSE) Research
Grant Programs**

NOTABLE PROGRAM

- Broad focus on developing diverse pool of scientists and engineers engaged in measurement science and standards research
- Multiple divisions across NIST Labs support AI-related research:
 - Artificial Intelligence
 - Spectrum Technology
 - Intelligent Systems
 - Software and Systems
 - Statistical Engineering
 - Materials Science and Engineering
 - Quantum Electromagnetics



In FY 24 budget request, DOD requested \$1.8B for Artificial Intelligence R&D

CURRENT PRIORITIES

- **Promote quality data** through improved foundational data management and expanded digital talent management;
- **Insightful analytics and metrics** by delivering capabilities for enterprise business and joint warfighting impact and by advancing the data, analytics and AI ecosystem;
- **Secure responsible AI** by strengthening governance and removing policy barriers and investing in interoperable, federated infrastructure.



New Office of Critical and Emerging Technology

- Leveraging DOE and its 17 National Laboratories to expand US leadership and technology.
- Focused on artificial intelligence (AI), biotechnology, quantum, and microelectronics

CURRENT PRIORITIES

- **Developing tools to understand and mitigate the risks of AI:** evaluate AI capabilities to generate outputs that may represent nuclear, nonproliferation, biological, and other threats as well as model guardrails to mitigate those risks.
- **Collaborating with other agencies, the private sector, and academia:** Utilize DOE's computing capabilities and testbeds to build foundational models for collaboration.
- **Training new researchers:** Work with the NSF to establish a pilot program to enhance training for scientists, with the goal of training 500 new researchers by 2025.



CURRENT PRIORITIES

- Seeks to harness the power of AI in applications **throughout agriculture and the food supply chain**
- Three of the **FY 24 Priorities for the AFRI program** are inclusive of research incorporating AI & ML
 - **Agriculture Systems and Technology**
 - Systems for crop and soil monitoring
 - Autonomous robots for previously labor-intensive tasks
 - **Bioenergy, Natural Resources and Environment**
 - Processes leading to substantial improvements in soil health
 - **Agricultural Economics and Rural Community**
 - Models to assist farm, forest, and ranch managers in decision-making



NOTABLE PROGRAMS

Agriculture and Food Research Initiative (AFRI) Foundational and Applied Science

- Developing new technologies to **enhance the resilience of agricultural production systems** to extreme weather events
- Impacting theory, genetics and **crop models in plant breeding** for agricultural Production
- Ensuring safety and nutrition of **novel foods and food ingredients**
- Enabling systems and communities to **effectively utilize data**

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)



Home of
NOAA Center for
Artificial
Intelligence

CURRENT PRIORITIES

- Long history of **using AI in weather forecasting**, climate modeling, and environmental monitoring
- Artificial intelligence is one of six key **Science & Technology (S&T) Focus Areas** that will advance NOAA's mission
- **AI-related goals include:**
 - **Advance AI research and innovation** (prioritize AI-approaches, RFPs, and research grants, develop an annual R&D prize competition series for AI, AI testbeds)
 - Accelerate the **transition of AI research to applications** (operations, commercialization and academia, etc.)
 - **AI partnerships** (such as w/ NSF's National AI Research Institutes)
 - **AI proficiency in the workforce**
- Plans to introduce **annual prize competition series to accelerate AI** R&D across NOAA

NOTABLE PROGRAM

Education Research and Development Center Program will fund a center on *Using Generative Artificial Intelligence to Augment Teaching and Learning in Classrooms*



- To examine how the use of generative artificial intelligence (AI) can make meaningful contributions to **improving education processes** and learners' education outcomes
- New **types of AI driven education tools** will permit well-trained educators to ensure each learner reaches their fullest potential

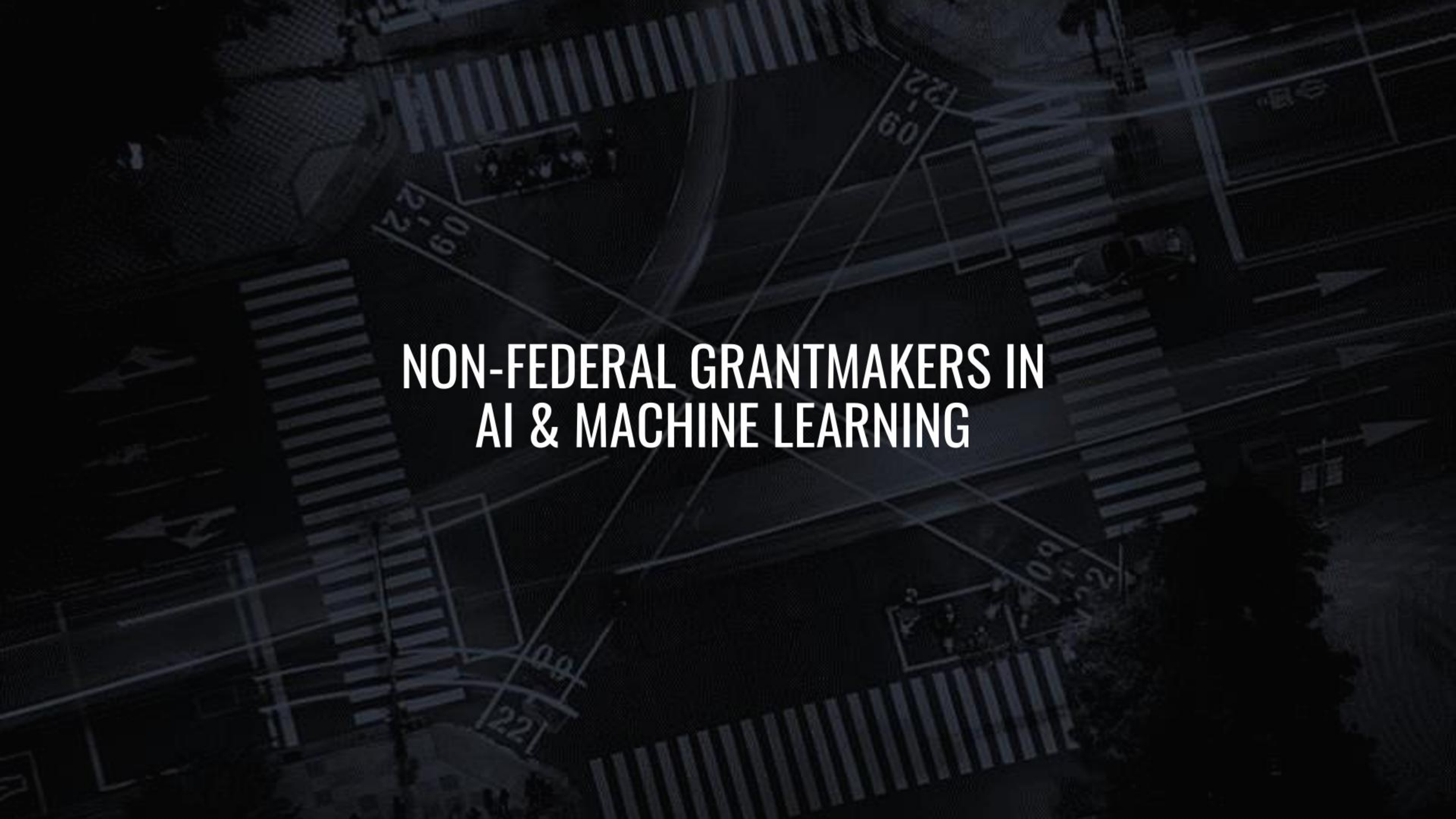
NATIONAL ENDOWMENT FOR THE HUMANITIES



Launched **Humanities Perspectives on Artificial Intelligence** in October 2023 “to support research projects that seek to understand and address the ethical, legal, and societal implications of AI.”

NOTABLE PROGRAMS

- **Humanities Research Centers on Artificial Intelligence**
 - Creation of humanities research centers focusing on the ethical, legal, or societal implications of artificial intelligence.
- **Dangers and Opportunities of Technology: Perspectives from the Humanities**
 - Research examining technology and its relationship to society through the lens of the humanities, with a focus on the dangers and/or opportunities presented by technology.
- **Collaborative Research**
 - Eligible projects include planning of an international AI research project or scholarly convening about AI.
- **Interested in covering topics related to AI through the following programs**
 - Institutes for Advanced Topics in the Digital Humanities
 - Fellowships
 - Awards for Faculty at HBCUs, HSIs, and TCUs
 - Summer Stipends
 - Public Scholar

An aerial, high-angle photograph of a city street intersection. The image is dark and grainy, with a white text overlay in the center. The text reads "NON-FEDERAL GRANTMAKERS IN AI & MACHINE LEARNING". The background shows a street with crosswalks, lane markings, and some buildings. The text is in a bold, sans-serif font.

NON-FEDERAL GRANTMAKERS IN AI & MACHINE LEARNING

SELECT FOUNDATIONS WORKING IN AI AND MACHINE LEARNING

These foundations collectively are contributing more than \$200 million in funding toward public interest efforts



**In November of 2023,
nine philanthropy
funders launched a
new initiative to ensure
AI/ML efforts seek to
mitigate harm and
promote responsible
use and innovation**

NOTABLE AI PRIORITIES OF MAJOR FOUNDATIONS

Ensure that AI *protects democracy and the rights and freedoms of all people*

Leverage AI *to innovate in the public interest* and deliver breakthroughs to improve quality of life for people around the world

Empower *workers to thrive* amid AI-driven changes across sectors and industries

Support the development of *international AI rules and norms*

Improve *transparency, interpretability, and accountability* for AI models, companies, and deployers



DIGGING DEEPER

FOR IDENTIFYING FUNDING PROSPECTS

Within your field or strategic focus area...

1

Gain deeper knowledge of funder priorities

- ✓ Funder program descriptions
- ✓ Strategic Plans
- ✓ Budget Request Documents

2

Explore work that is being funded

- ✓ Funder grant databases,
- ✓ Various federal and foundation databases

3

Track new and expected solicitations

- ✓ Newsletters like those offered by [Hanover](#)
- ✓ Funder alerts and distros



ABOUT HANOVER GRANTS

Hanover provides research development, grant writing, and strategic advising support to a wide range of colleges and universities. Our professionals deliver customized proposal review, revision, and production support, while also helping to align strategic priorities to funding trends and opportunities at all levels.

OUR SOLUTIONS

CAPACITY DEVELOPMENT



- Grants Training
- Benchmarking & Best Practices
- Grantseeking Strategy

FUNDING RESEARCH



- Funding Opportunity Analysis
- Prospect Research
- Funding Calendar

PRE-PROPOSAL ACTIVITIES



- Faculty Consult
- Outreach Strategy
- Concept Paper Development

PROPOSAL SUPPORT



- Proposal Review
- Proposal Revision
- Proposal Research
- Proposal Support

PROPOSAL DEVELOPMENT



- LOI/Pre-Proposal Production
- Proposal Production (Foundation)
- Proposal Production (Federal)



Please contact us at info@hanoverresearch.com to learn more.

QUESTIONS?



Hanover's **Grant Rant** podcast will supplement our webinar series, addressing outstanding questions from attendees.



Clinton Doggett

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