Data Science Strategy
(ODSS)

Provides NIH-wide leadership and coordination for a modernized NIH data resource ecosystem

What we do

Provides **leadership and coordination** on the strategic plan for data science

Develops NIH's vision for a **modernized** and **integrated** biomedical data ecosystem

Enhances a **diverse and talented** data science workforce

Builds strategic partnerships to advanced technologies and methods

National Institutes of Health
Office of Data Science Strategy

Cloud Computing Infrastructure
STRIDES Initiative | Value to Participants

Participants in the NIH Science and Technology Research Infrastructure for Discovery, Experimentation, and Sustainability (STRIDES) Initiative benefit from:

- **Competitive** pricing & financial benefits
- **Professional** service consultations
- **Flexible** business model
- **Expanded** communication reach
- **Expert** support from cloud providers
- **Reach-through** to additional partners
- **Training** expertise and scaling capacity

Impact *as of Aug. 31, 2024*

363+	PETABYTES OF DATA
726M+	COMPUTE HOURS
2553+	RESEARCH PROGRAMS
$120M+	COST SAVINGS
215+	EXTRAMURALS PARTICIPATING

NIH National Institutes of Health
Office of Data Science Strategy

Google   AWS   Microsoft Azure

ODSS provides support for Intramural researchers to develop applications in the STRIDES Clouds

Awards Made through ODSS High-Value Datasets Program

NIEHS

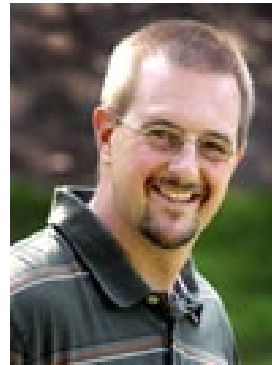### Variant Calling and Data Dissemination in the All of Us Cloud Computing Resource

Alison A. Motsinger-Reif, Ph.D.
Chief, Biostatistics & Computational Biology Branch & Principal Investigator

Keith R. Shockley, Ph.D.
Staff Scientist

ToxPipe

Scott S. Auerbach, Ph.D.
Leader, Toxicoinformatics

NIAID

Optimization of Cloud Computing for cryo-EM Data Processing

Joseph Marcotrigiano, Ph.D.
Chief, Structural Virology Section

NHLBI

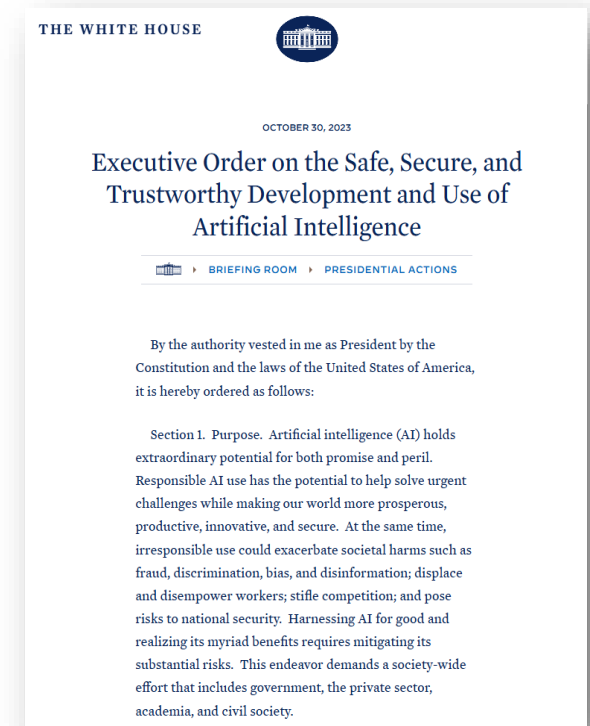### Exploration of Cloud Computing for Cryo-EM/ET Analysis Pipeline

Naoko Mizuno, Ph.D.
Senior Investigator

National Institutes of Health
Office of Data Science Strategy

Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence

The EO directs HHS to:

*"establish an HHS AI Task Force that shall, within 365 days [January 27, 2025] of its creation, develop a strategic plan that includes policies and frameworks—possibly including regulatory action, as appropriate—on **responsible deployment and use of AI and AI-enabled technologies** in the health and human services sector (including research and discovery, drug and device safety, healthcare delivery and financing, and public health), and identify appropriate guidance and resources to promote that deployment"*
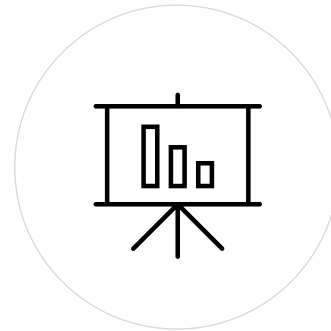

THE WHITE HOUSE

OCTOBER 30, 2023

Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence

BRIEFING ROOM › PRESIDENTIAL ACTIONS

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1. Purpose. Artificial intelligence (AI) holds extraordinary potential for both promise and peril. Responsible AI use has the potential to help solve urgent challenges while making our world more prosperous, productive, innovative, and secure. At the same time, irresponsible use could exacerbate societal harms such as fraud, discrimination, bias, and disinformation; displace and disempower workers; stifle competition; and pose risks to national security. Harnessing AI for good and realizing its myriad benefits requires mitigating its substantial risks. This endeavor demands a society-wide effort that includes government, the private sector, academia, and civil society.

AI@NIH and Beyond

Multimodal AI

BRIDGE2AI

AIM AHEAD

NAIRR Pilot

R&D

Programming

Clinical Trials

Business Analytics

Medical Responses

Community

AI Presents Vast Opportunities and Challenges

- AI allows us to **analyze vast amounts of data, identify complex patterns, and gain deeper insights** into fundamental scientific phenomena

- Advances in the field of AI are already leading to new opportunities, with even more on the horizon.

- Challenges remain because of inconsistent, incomplete, biased, and low-quality data.

The AI Future is Bright

Opportunities to **harness AI's growth to advance biomedical discoveries**

New **Strategic Plan for Data Science for 2025-2030** coming soon

Let's explore these new technologies — *together*!