Data Science is a Priority and Crosscutting Theme at NIH
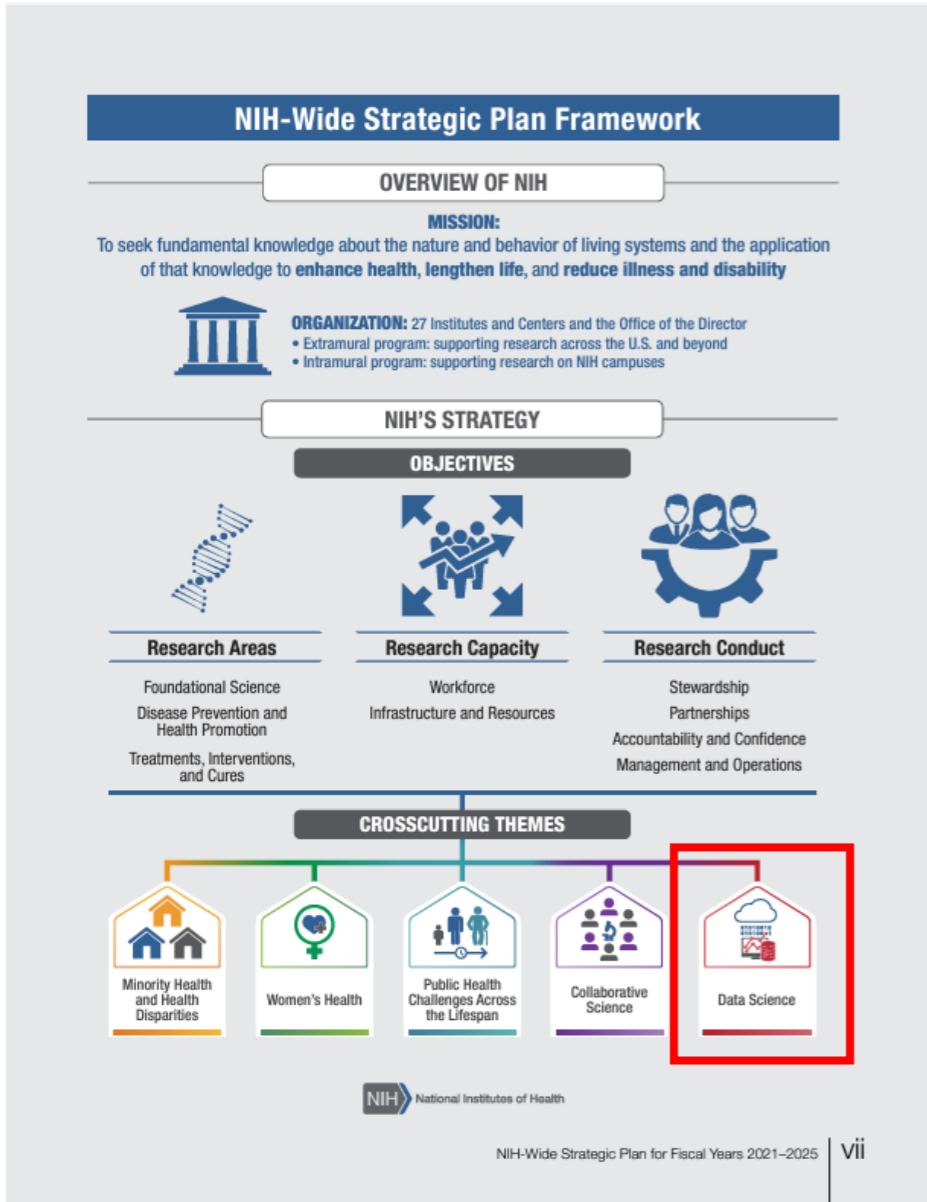
The 27 NIH Institutes and Centers

Data Science Topic Areas

Examples of data science areas include, but are not limited to:

- artificial intelligence;
- predictive analytics;
- machine learning;
- bioinformatics;
- cloud computing;
- computational science;

- software design and programming;
- supercomputing;
- statistics;
- clinical informatics;
- data visualization;

- modeling and simulation;
- data sharing and access;
- data management;
- data compression and standards;
- other data science topics

All data science training efforts are strongly encouraged to include activities that enhance awareness, knowledge and communication of:

- data ethics;
- risk management of cybersecurity.

Mission and Goals of ODSS

The NIH Office of Data Science Strategy:

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

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

- **Builds a strong and diverse data science community**

- Builds strategic partnerships to develop and disseminate advanced technologies and methods
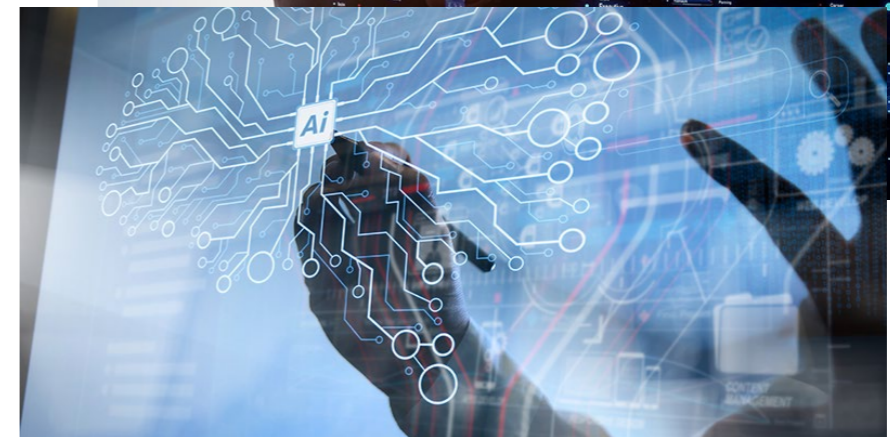
TWICE Team Priorities:

Dr. Alison Lin, Lead

Advance data science capacity in low-resource institutions

Expand data science workforce at the NIH

Promote data science in the R01 portfolio to expand the extramural data science workforce

Support training programs for pre-college to graduate students and postdocs to increase data science trainees from diverse populations

DataSciZone
Learning Portal

Provide resources and tools for data science training and education

ODSS Supports Research Training and Education Awards

- Extramural:
  - Institutional: T32, R25
  - Individual: F, K, Diversity Supplements
- Intramural – Graduate Data Science Summer Program
- Pipeline: pre-college, undergraduate, postbac/post Masters, graduate, postdocs, early career
- Diversity: NIH Notice of Interest in Diversity

Dr. Bryan Kim

Dr. Hua Ou

SEPA SCIENCE EDUCATION PARTNERSHIP AWARD
SUPPORTED BY THE NATIONAL INSTITUTES OF HEALTH

The NIH R25 SEPA program supports STEM and Informal Science Education activities for pre-kindergarten to grade 12 (P–12) students from diverse backgrounds.

- **Data Detectives: Using Real Data to Solve Real Community Health Problems** (PI: Gillespie & Marcus; Emory University)
- **Knox Scholars Data Science Research Program** (PI: Ortega; Health Resources in Action, Inc.)
- **Community Engaged Research Partnerships for Building Capacity and Training in Inclusive Data Science** (PI: Marriott; Oregon Health & Science University)
- **Adventures in Drug Discovery: Integrating Data Science into the Science Curriculum** (PI: Xie; Institute for Future Intelligence Inc.)

ODSS Implements Programs to Enhance Data Science Workforce at the NIH –

Data and Technology Advancement (DATA) National Service Scholar Program:

- Brings **advanced data experts** to the NIH for up to two years

- Totals 31 scholars across 18 ICs and 2 OD offices in 4 years

DataPath Program, newly launched in 2023:

- Brings **early career data talents** to the NIH via a Pathway mechanism

- Collaborates with US Digital Corps program operated by GSA

Dr. Bryan Kim

Evelyn Botchway

NIH Resources and Opportunities in Data Science

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

Flexible business model

Expert support from cloud providers

Training expertise and scaling capacity

Professional service consultations

Expanded communication reach

Reach-through to additional partners

Impact *as of September 30, 2023*

253+ PETABYTES OF DATA

506M+ COMPUTE HOURS

1785+ RESEARCH PROGRAMS

$76M+ COST SAVINGS

5384+ PEOPLE TRAINED

Google

AWS

Microsoft Azure

NIH Cloud Lab | Experiment in the Cloud

Through this resource, NIH-funded researchers will become more efficient and comfortable in leveraging the cloud for their research purposes.

Accounts Issued as of May 16th 2024

663 ACCOUNTS (+58)

Staff 37%
Awardees 63%

aws: Staff 85, Awardees 20
Google Cloud: Staff 63, Awardees 400
Microsoft Azure: Staff 94, Awardees 1

■ Staff ■ Awardees

Use Cases

Evaluate Utility & Cost

Reduces the financial, labor, and time commitments required to evaluate the cloud's utility/cost for a project
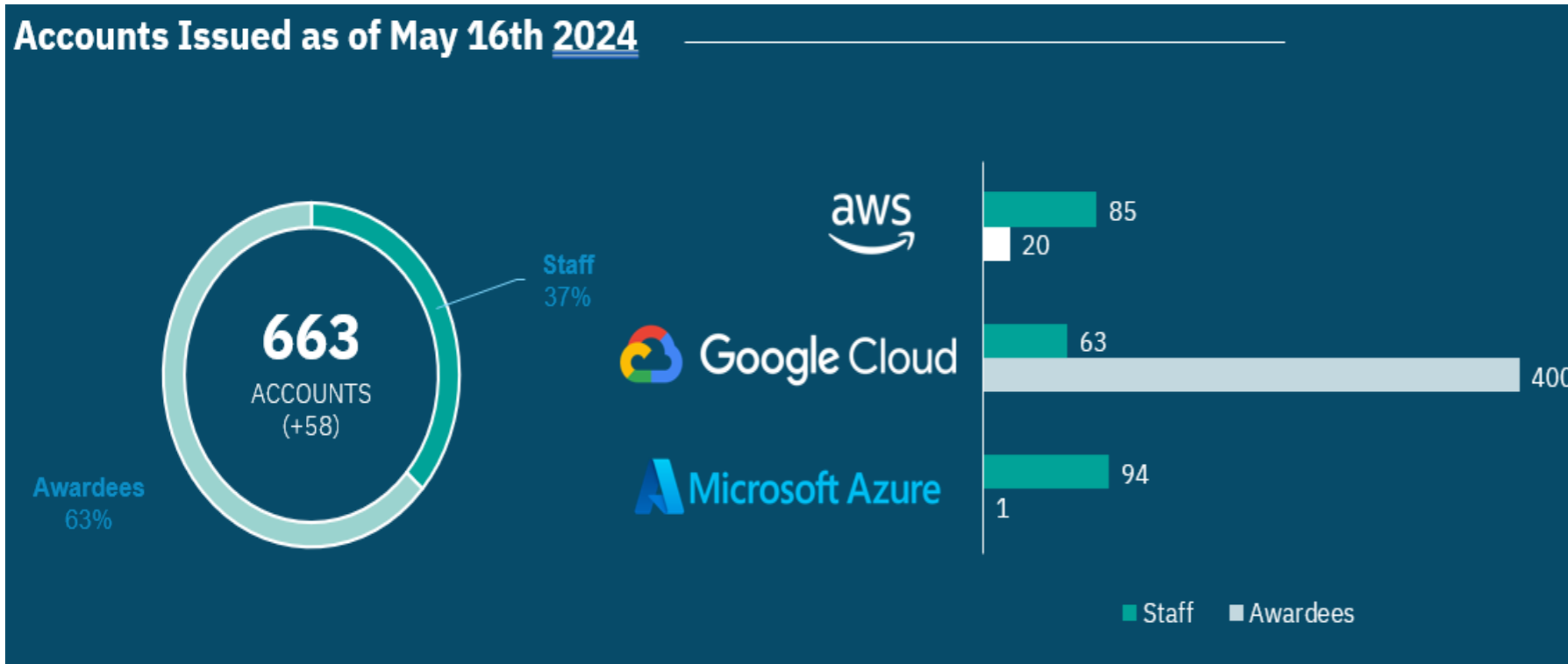
Develop New Tools

Allows experienced teams to prototype new architectures and evaluate software and hardware combinations

Share Ideas

Enables researchers across the world to share ideas on how to conduct biomedical research in the cloud

Learn New Skills

Simplifies access to tools and cloud environments that participants can use for training purposes

Notice of Special Interest (NOSI): Supporting the Exploration of Cloud in NIH-supported Research

- **NOSI ID:** NOT-OD-24-078

- **Purpose:** To explore and test potential opportunities for leveraging cloud solutions to enhance existing NIH activities.

- **Funding Mechanism:** Competing Revision Supplement

- **Eligibility Activity Codes:** R01, R15, R25, R33, R35, R37, R61, RF1, U01 and U24

- **Budget:** Up to $200K direct cost for one year

- **Submission Due Dates:** 6/18/2024, 6/18/2025, 6/18/2026

https://grants.nih.gov/grants/guide/notice-files/NOT-OD-24-078.html

Data Science Funding Opportunities

Secondary Data Analysis

- Pilot Projects Enhancing Utility and Usage of Common Fund Data Sets (R03 Clinical Trial Not Allowed)
  - **RFA-RM-24-006 Application Due Date: June 27, 2024**

- Advance Data Science Approaches Through Secondary Data Analysis to Reveal Scientific Insights of COVID-19 Testing Technologies
  - **NOT-OD-24-026 Application Due Date: July 16, 2024**

- Secondary Analysis and Integration of Existing Data to Elucidate Cancer Risk and Related Outcomes (R21 Clinical Trials Not Allowed)
  - **PAR-23-255 Application Due Date: NIH Standard Dates**

AIM-AHEAD's mission to use AI/ML and address health equity

Apply now for fellowships & research programs

Fellowship programs:

- AIM-AHEAD Research Fellowship
- AIM-AHEAD AI/ML Training for Clinicians and Healthcare Providers

Research programs:

- AIM-AHEAD Federated Network
- AI/ML in Biomedical Research and Clinical Practice That Embodies Ethics and Equity
- AIM-AHEAD Consortium Development Program – Innovation for Equity in Low-Resource Settings

Community engagement:

- AIM-AHEAD Public-Private Partnerships to Improve Population Health using AI/ML
- AIM-AHEAD Hub-Specific Pilots

Application Deadlines: June 2024
Project Start: September 2024

Sign up For the Weekly NIH Data Science Newsletter

Sign up here for ODSS updates:
https://bit.ly/ODSSEmails

Data science job opportunities at NIH (Federal):
https://datascience.nih.gov/jobs

Contact
ds-workforce@nih.gov