

ODSS AI PI Meeting

Slido Highlights



What best practices did you use to test/validate efforts to mitigate biases in your project (e.g., in the data, processes)?

Open text poll 38 responses 35 participants

- Anonymous: Retrain available models with data actually from target populations
- Anonymous: Random generated parametric test data
- Anonymous: Feedback from people being represented
- Anonymous: NA... animal data, collected from multiple species
- Anonymous: Participatory action research foundation
- Anonymous: Expert curated data
- Anonymous: Statistical assessment of patient demographics
- Anonymous: qualitative; engaging with original data users
- Anonymous: investigation of data collection practices
- Anonymous: Preprocessing components that influence the biases
- Anonymous: Uniforming data distribution
- Anonymous: Single cell data and optimal transport
- Anonymous: Test for heterogeneity of performance across different populations in validation
- Anonymous: external validation
- Anonymous: Tools to test biases like Fairlearn
- Anonymous: blinded study design
- Anonymous: Expert review
- Anonymous: Single secure collaboration environment--no silos. Regular check-ins across diverse team members.
- Anonymous: review of data collection processes from many different individuals/stakeholders
- Anonymous: Uniforming data distributions, data transformations



What award are you associated with?

Multiple Choice Poll 83 votes 83 participants

FY22 AI Ethics (NOT-OD-22-065) - 17 votes



FY22 AI Readiness (NOT-OD-22-067) - 33 votes



FY23 AI Readiness (NOT-OD-23-082) - 27 votes

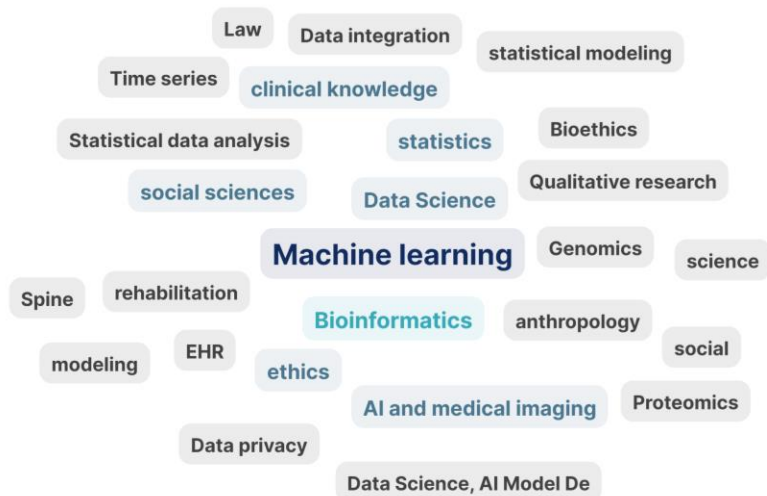


Observer - 6 votes



What areas of expertise did you bring to your team?

Wordcloud Poll 132 responses 79 participants



ODSS AI PI Meeting 2024

Example Highlights

- **Many groups encountered challenges and surfaced gaps/needs in generating 'AI ready' data**
 - Data harmonization – aggregating data / challenging data types / combining multimodal data
 - Disparate standards, formats, schema
 - Quantifying data collection bias
 - Missingness & balancing representation
 - Removing noise while preserving information from data
 - Comprehensive data dictionaries
 - AI readiness – can mean different things at different stages of development pipeline
- **Sharing methods/reporting/documentation around...**
 - Models with incomplete data
 - Approaches for improving 'noisy'/'dirty'/'historical' data
 - Quantifying and improving representativeness
 - Challenges & strengths of synthetic data
 - Findability of/access to data/datasets
 - Reproducible pipelines for data processing/sharing/FAIR
 - Appropriate metadata & provenance
 - Uncertainty quantification
 - Continual monitoring/validation
 - Measuring, identifying, and mitigation biases – metrics/tools
 - Ethical principles and approaches that evolve with the field / needs & concerns of communities
- **Ethical approaches & needs**
 - Privacy standards & reuse and consent limitations/concerns
 - Biases encountered across the board
 - Gauging community perceptions for AI use in healthcare
 - Improving training on the ever-evolving landscape of AI and AI-Ethics
 - Intersectional approaches are key
 - AI Ethics experts on appropriate review panels (e.g., IRBs)/collaborative projects
 - Tackling problems relevant to disadvantaged populations – e.g., through SDOH; improved approaches to these challenges
 - Community engagement strategies and processes are key
 - Critical to understand & respect autonomy/needs of communities affected or targeted
 - Ethical and responsible AI requires commitment to evaluation – will change over time and requires many stakeholders
 - Further questions surrounding generative AI/LLMs
- **Training**
 - Culture change needed for inherently multidisciplinary space – need for support for cross-disciplinary work and supporting the next gen of researchers on this path
 - Collaboration gaps, spurring interdisciplinary collaborations
 - Enhanced workshops/trainings etc., to teach researchers in quickly moving space – best practices, current state, leading edge of AI/AI Readiness/AI Ethics
 - Access to compute & data infrastructure is challenging / expansive

Bridge2AI 2024 Open House

April 18-19, Rockville, MD
NIH Neuroscience Center

Learn More:
<http://bit.ly/4c5fV9x>



Bridge2AI Open House

April 18-19th, 2024 | NIH Neuroscience Building

- Join Bridge2AI for the 1st Open House, featuring highlights from the four Grand Challenge Data Generation Projects (DGPs) with information on new biomedical datasets.
- Attendees will have an opportunity to meet the DGPs and learn about the launch of Bridge2AI's Data Challenges and our road ahead with biomedical AI.
- More information on the Open House and registration may be found: <http://bit.ly/4c5fV9x>

Grand Challenges:

Voice AI

Salutogenesis

Clinical Care

Functional Genomics

Call for Submission

NIH Special Track – ISMB 2024 (July 12-16, 2024; Montreal)

<https://www.iscb.org/ismb2024/home>

One-day special conference track on NIH funded projects focusing on:

Artificial Intelligence & Machine Learning (AI)

Cloud Research

Research Software Development

Awardees from the following funding opportunities are invited to submit an abstract for selection:

- AI/ML Readiness, Ethics, Bias, Transparency, Workforce ([NOT-OD-21-094](#), [NOT-OD-21-079](#), [NOT-OD-22-065](#), [NOT-OD-22-067](#), [NOT-OD-23-082](#))
- AIM-AHEAD ([OTA-21-017](#))
- Exploratory Cloud Research ([NOT-OD-23-070](#))
- Software Tools for Open Science ([NOT-OD-20-073](#), [NOT-OD-21-091](#), [NOT-OD-22-068](#), [NOT-OD-23-073](#))
- NIH-NSF Smart Health Program (SCH) ([NOT-OD-21-011](#), [NOT-OD-23-165](#))

Stay tuned for information on how to submit an abstract not to exceed **300 words** on project accomplishments by end of **April 2024**

NIH Office of Data Science Strategy

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A modernized, integrated, FAIR biomedical data ecosystem



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