Midwest Big Data Innovation Hub

Inclusivity, Diversity, Equity, and Accessibility (IDEA) plan

OVERVIEW

The Midwest Big Data Innovation Hub (MBDH) is a regional organization open to participation by all in our 12-state area. The Midwest is home to a diverse population representing many racial and ethnic groups, religions, and languages. Approximately 30% of the nation's Native population and 20 of 37 of the nation's tribal colleges are located in the MBDH region[1]. Data science education occurs at a range of educational institution types, from community colleges to R1 universities, including many minority-serving institutions (MSIs) of various classifications. The diversity of the region's industries and varying socioeconomic statuses across both urban and rural areas also impact workforce development needs around data science education and research disciplines. Given this context, as well as the historical and ongoing underrepresentation and marginalization of many groups in the data science field and STEM fields more broadly, the MBDH is conducting active outreach, engagement, and support to create a more inclusive, diverse, equitable, and accessible organization and community. Our mission is to catalyze communities, but in ways that are mutually beneficial, ethical, and not extractive. All data has local context, and without including people who live in the Midwest, we increase the risk that important context will be neglected in subsequent stages of the modeling process. Moreover, a vibrant data science literate community in the region is required to ensure that the set of optimization functions used in data science are aligned with community goals and objectives, such as those described below.

GOALS

The MBDH has the following goals for inclusivity, diversity, equity, and accessibility (IDEA) for our organization and community:

- The MBDH has ongoing strategic, intentional, and specific plans and actions that engage community members from underrepresented groups and underresourced institutions.
- **Inclusion** – Participation in MBDH activities is transparent and open to all, and those new to the MBDH feel welcomed, encouraged, and able to participate in all activities with an equal voice and level of agency.

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[1] Data from Anita Frederick, Tribal Nations Research Group; personal communication.

- **Diversity** – The MBDH community is composed of participants who reflect the diversity of the region, including all races, ethnicities, gender identities, socioeconomic statuses, and disability statuses, and reflect the scope of institution types in the region.
- **Equity** – The MBDH actively works to understand systemic inequities in data science and identify how to improve structures and processes to better reflect the needs and challenges of the people in our region.
- **Accessibility** – Community members have access to MBDH resources regardless of institution type, academic rank, ethnicity, race, gender identity, ability, or socioeconomic status.

SPECIFIC ACTIONS AND OPPORTUNITIES FOR ACTION

The MBDH is working toward the above goals in the following ways:

Seed Funds

The MBDH has a mandate from NSF to competitively award seed funding for new initiatives. The MBDH brands this activity as the Community Development and Engagement (CDE) program. The MBDH and its Seed Fund Steering Committee developed policies and procedures to ensure open and transparent processes for proposal solicitation, development, review, and support that address our goals of inclusion, diversity, equity, and accessibility. These include: specific eligibility criteria to ensure that support is being provided to new participants who are not affiliated with the MBDH; active outreach to underrepresented institutions and groups; funding to support salaries for faculty at underresourced institutions; specific types of in-kind support for institutions that do not have access to robust sponsored projects administration support, including MSIs and primarily undergraduate institutions (PUIs); and communications activities that highlight these aspects, to provide encouragement to new participants and examples that reflect their perspectives. We have feedback mechanisms in place to understand other challenges facing community members' ability to participate in this program.

Community Advisory Panel and Community Engagement Activities

The MBDH is actively recruiting members of underrepresented groups and people from underresourced institutions to participate on our Community Advisory Panel (CAP), which serves as a source of external input about broader community needs, challenges, and opportunities in the data science field. Our broader outreach activities include seeking input from non-R1 institutions in the Midwest region, such as predominantly undergraduate institutions (PUIs), Minority-Serving Institutions (MSIs), and Tribal Colleges and Universities (TCUs) via surveys, feedback from events, and research about the needs of and best practices for serving underrepresented communities.

Data Science Education Activities

The MBDH's education, training, and workforce development activities are open to all in the region. Some specific considerations and actions the MBDH is taking include:
- Focusing part of the community engagement research described in the preceding section on education and workforce needs, such as what differences in needs and resources exist at non-R1 institutions;

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- Actively recruiting participants from underrepresented groups and underresourced institutions to MBDH education activities, with financial support;
- Actively recruiting students for MBDH internships from institutions throughout the region to build a diverse team that reflects the range of institutions in the community;
- Developing a seat-sharing process for Carpentries events throughout the region through the MBDH Midwest Carpentries Community (MCC) organization, to enable participants from other institutions to use seats that would otherwise go empty;
- Developing instructor training and mentoring activities via the MCC to build instructional capacity at non-R1 institutions;
- Supporting curriculum development activities at non-R1 institutions through participation in the BD Hubs Education and Workforce Working group; through CDE Seed Fund projects, and through partner matching to help early-career and underresourced faculty develop data science curricula that are appropriate for the needs of their students.

Events and Programmatic Activities
- For ad hoc and recurring events, the MBDH actively seeks to have diverse representation and perspectives among its speakers, panelists, discussion leaders, and participants.
- For working groups and other activities that are focused on seeking community input, such as our community readiness assessments, we will continue to develop targeted outreach plans to have diverse representation in membership, and to solicit input broadly, and communicate this information back out to a broader audience.
- In activities that involve data collection activities from the community for decision-making or research, the MBDH acts in the best interests of its stakeholders, such as recognizing the importance of non-extractive engagement and indigenous data sovereignty, and advocating for use of frameworks such as the CARE (Collective benefit, Authority to control, Responsibility, and Ethics) principles in addition to, or in place of, others such as FAIR (Findable, Accessible, Interoperable, Reproducible), in order to represent the interests of our indigenous communities and other groups that experience extractive or exploitative data use.
- For development of tools, systems, infrastructure, and other processes, we seek to engage the participation of end users of those resources to ensure their interests and agency are represented, as well as assessing the designs for issues of bias or inequity.

General Actions
In other areas and activities of the MBDH, we are actively modeling and communicating IDEA Goals through MBDH communications activities, operations, and administration, such as:
- Opening participation for student internships to all educational institutions in the region;
- Developing the MBDH "Event in a Box" tool kit to help underresourced individuals and institutions more easily develop events and activities, and more easily comply with requirements from funding agencies, such as having a code of conduct, collecting data on participants, and making activities and outputs accessible to people with disabilities;
- Offering as many events as possible in hybrid form when in-person events resume after the pandemic so that people with disabilities are able to participate fully in all activities;

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- Making financial support for event participation available for community members who would not otherwise be able to participate;
- Developing narrative profiles and interviews of researchers from underrepresented groups and underresourced institutions on our communications platforms;
- Using images of people from diverse races, ethnicities, ages, genders, and abilities on our communications platforms;
- Using alt-text for images on our communications platforms;
- Providing closed captioning and transcriptions of audio and video activities in a timely manner and making them available through our communications platforms.
- Annual staff training for UIUC-based staff through the required diversity, anti-harassment, and ethics training;
- Ability to consult with the UIUC Bias Assessment and Response Team (BART) via the Office of the Vice Chancellor for Diversity, Equity and Inclusion (VCDEI);
- Engagement with Jacki Thompson Rand, Associate Vice Chancellor for Native Affairs, to identify opportunities for engagement with specific native groups;
- Ability to consult with the UIUC Division of Disability Resources and Educational Services (DRES) on best practices for making MBDH resources and services available and accessible to those with disabilities throughout the Midwest region;
- Leveraging work by other NSF-funded projects, such as the Science Gateways Community Institute, about best practices for accessibility.

PROGRESS AND OUTCOMES ASSESSMENT

The MBDH has defined specific key performance indicators (KPIs) and metrics to assess both the ongoing progress towards achieving these goals and longer-term outcomes assessment. The MBDH is receiving input and guidance from its external evaluation team on these activities.

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