AIM-AHEAD Bridge2AI for Clinical Care Training Program

Cohort 2

Informational Webinar

September 09, 2025, 2:00pm Central

AIM-AHEAD Coordinating Center is funded by NIH, Agreement No.: 1OT2OD032581

AIM-AHEAD Consortium

AIM-AHEAD is a nationwide network of institutions and organizations designed to build AI talent among researchers and clinicians, support multidisciplinary research projects that harness AI/ML to improve the health of Americans, and enhance the AI capabilities and infrastructure of communities or hospitals that otherwise would not have had the resources or the capacity to benefit from the advancement of AI/ML.

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The AIM-AHEAD Coordinating Center

The A-CC consists of four cores, focused on various initiatives to achieve AIM-AHEAD's mission.

Leadership Core

Lead, recruit, and coordinate the AIM-AHEAD Consortium

Data Science Training Core

Assess, develop, and implement data science training curriculum

Data and Research Core

Address research priorities and needs to form a comprehensive basis for AI/ML

Infrastructure Core

Assess data, computing, and software infrastructure to facilitate AI/ML and health research

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NIH Leadership Team

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AIM-AHEAD Leadership Team

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Bridge2AI CHoRUS Leadership Team

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Tufts University

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Program Partnership

Partnership

- **Strategic Collaboration: AIM-AHEAD** and **Bridge2AI c**ollaborate to deliver specialized AI/ML training for clinical care, leveraging shared resources and expertise.
- **Combined Expertise:** AIM-AHEAD's strength in trainee engagement and Bridge2AI's AI data and curriculum deliver a comprehensive training experience.
- **Focus on Training:** The partnership equips trainees with practical skills to apply AI/ML methods to clinical care challenges using real-world data.
- **Goal:** Build a skilled workforce prepared to advance AI/ML applications in health research.

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Program Purpose

The AIM-AHEAD Bridge2AI for Clinical Care Training Program expands access to **Bridge2AI CHoRUS data** through engagement, AI training, and mentorship. It equips trainees to apply AI/ML methods to big data analysis and conduct innovative research at the intersection of healthcare challenges and AI/ML using multi-modal datasets from a broad range of cohort participants.

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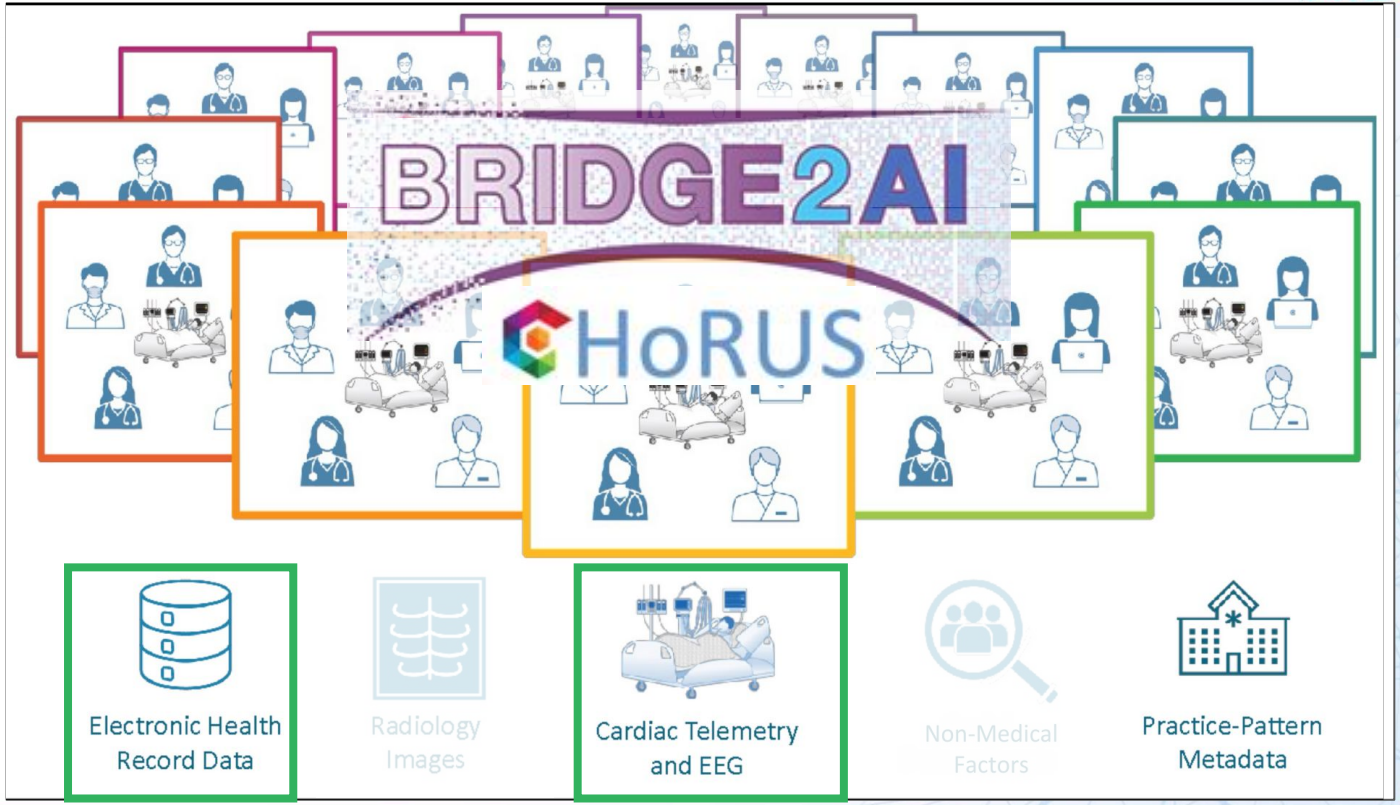
Bridge2AI for Clinical Care Dataset

Multicenter

Multimodal & High-Resolution



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CHoRUS Dataset

- **Retrospective data collection**
- **Controlled access**
- **As of August 2025, covers 14 different hospitals with over 45K unique admissions**
  - OMOP and telemetry in enclave except:
    - Clinical notes – stored locally except tokens
    - Imaging – currently 1000 images available with de-id in process for larger cohort
    - EEG – extraction in process at this point
- **Datasets are being used for training activities and publications**

Data type	Data standard	Access control	Metadata	Published metadata schema
Demographics	OMOP	Controlled	Yes	Yes (OMOP schema)
Medication administration (dosing time-stamped upon each infusion change or dose administration)	OMOP	Controlled	Yes	Yes (OMOP schema)
Procedures (documentation by providers)	OMOP	Controlled	Yes	Yes (OMOP schema)
Nursing flowsheets (high-frequency documentation)	OMOP	Controlled	Yes	Yes (OMOP schema with extensions)
Diagnoses (documentation by providers)	OMOP	Controlled	Yes	Yes (OMOP schema)
Clinical notes (extracted and tokenized using OHNLP toolkit)	OHNLP	Controlled	Planned	Yes (OHNLP open source schema)
Imaging (from PACS)	DICOM	Controlled	Planned	Yes (DICOM schema)
Waveform telemetry (bedside monitors, gateway/middleware)	WFDB	Controlled	Yes	Yes (PhysioNet schema extended)
Waveform EEG (hospital database)	EDF+ and Persyst	Controlled	Planned	Yes (open source EDF+ and Persyst schema)

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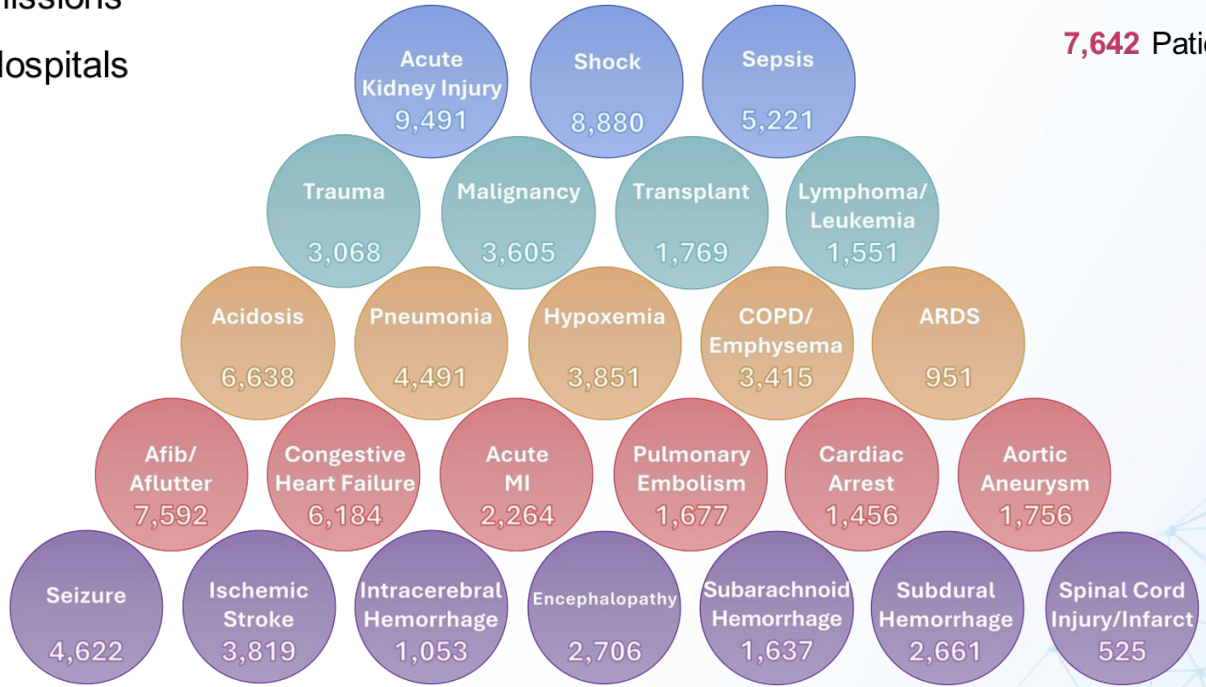
Bridge2AI for Clinical Care Dataset

Over 45,000 Admissions

14 Contributing Hospitals



1.6 Billion Rows of OMOP EHR Data

7,642 Patients with Radiology Data

23 Tb of Waveform Data

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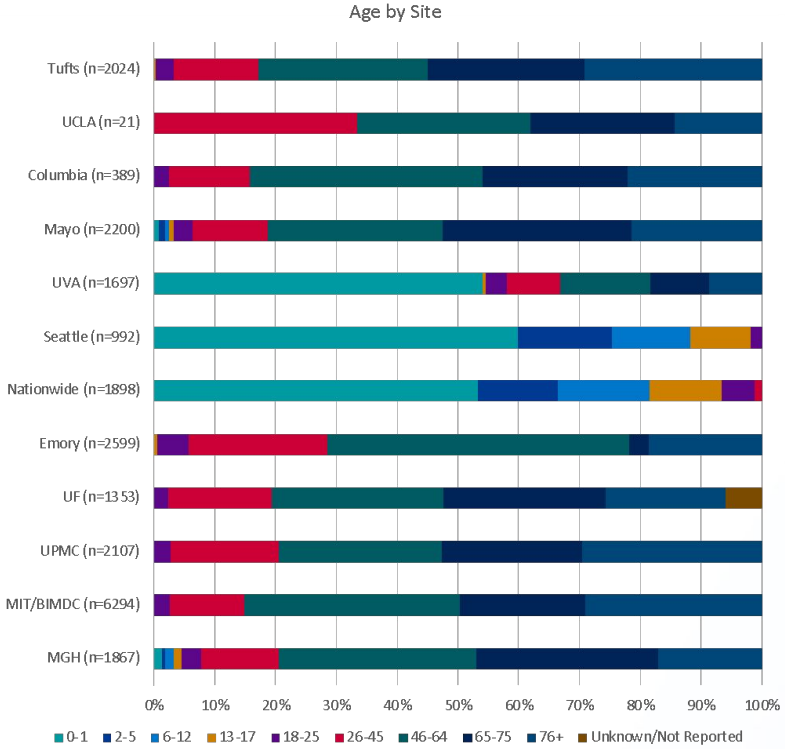
CHoRUS Dataset



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CHoRUS Dataset

Hospital Data EHR Source Name	Data Source	Data Domain	Data Subdomain	Data Group	OMOP CDM Data Element
Right Neurological Pupil Index (NPI)	CCC CRFs	Patient Assessment	HEENT	Pupil Assessment	Pupil NPI (Right)
Left Neurological Pupil Index (NPI)	CCC CRFS	Patient Assessment	HEENT	Pupil Assessment	Pupil NPI (Left)
R PHS RIGHT PUPILLOMETRY SIZE	Flowsheet Data	Patient Assessment	HEENT	EYES/Vision	Pupillometry Size (Right)
R PHS LEFT PUPILLOMETRY SIZE	Flowsheet Data	Patient Assessment	HEENT	EYES/Vision	Pupillometry Size (Left)
R IP VENT VT HIGH	Flowsheet Data	Organ Support	Mechanical Ventilation	Tidal Volume (Vt) (ml)	V_T HIGH
R IP VENT VT LOW	Flowsheet Data	Organ Support	Mechanical Ventilation	Tidal Volume (Vt) (ml)	V_T LOW
PHS ANES PULSE	Flowsheet Data	Anesthesia	Vitals	Pulse	Anesthesia Pulse
Oxygen Saturation (%)	CCC CRFS	Observations/ Measurements	Vitals	Oxygen Saturation (SpO2)	Oxygen Saturation Measurement

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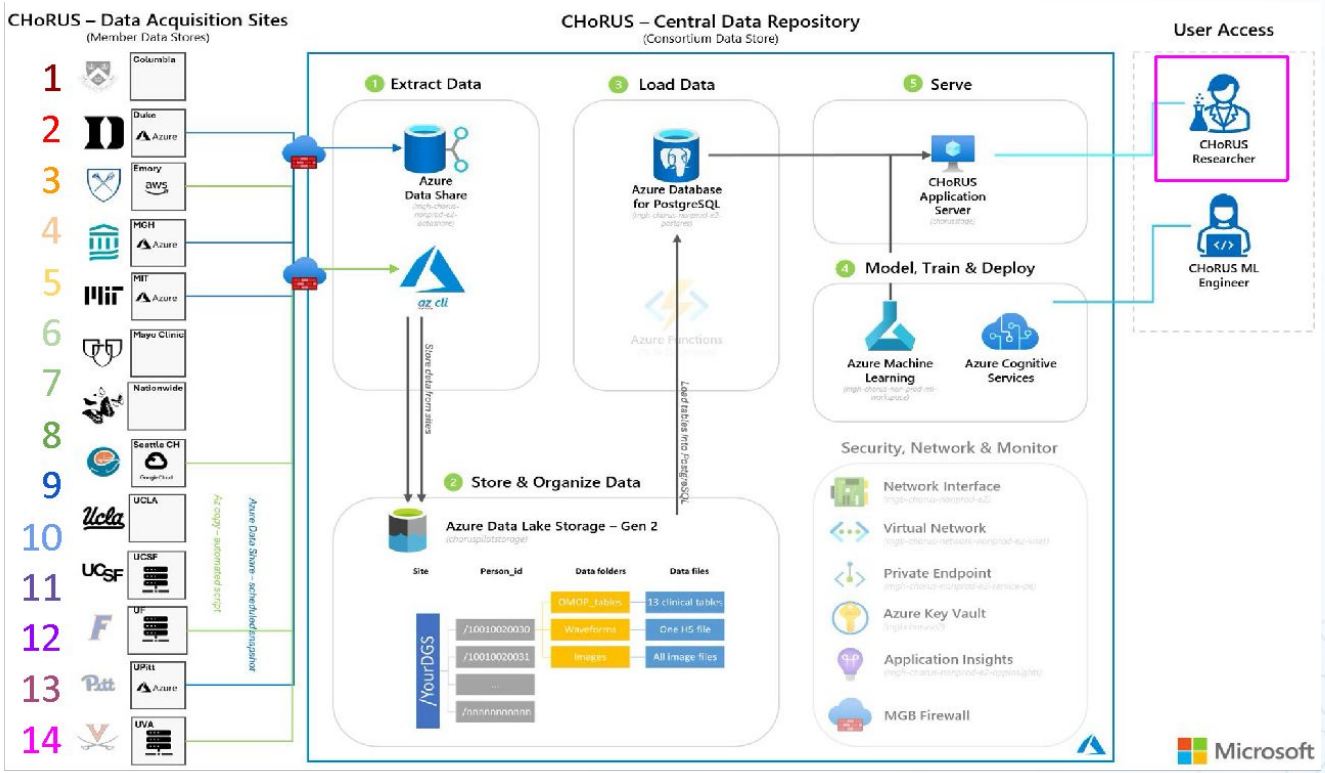
CHoRUS Dataset



Foundational Hands-On Training

Gain experience with AI/ML in the Bridge2AI CHoRUS ecosystem

Learn fundamental skills, tools, and design patterns for applying AI to clinical problems.

Asynchronous Jupyter Notebooks

- Python and Version Control
- Structured EHR Datasets
- ML for Clinical Applications
- Clinical Deep Learning
- Ethics of Clinical AI

Synchronous Office Hours

- Virtual meetings with AI experts
- Notebook review
- Open Q&A

Hybrid Workshop: AI in Clinical Care

- Guided coding exercises
- Hands-on brainstorming
- Community team building

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Accessing the Data

Registration Process

1. Participants will fill out a registration form with name, email, and institution
2. Once access is granted and compute is provisioned, an email will be sent

Licensing Agreement

- [x] All participants must sign a licensing agreement included in the registration form before gaining access to the dataset

**This requirement is not a barrier to acceptance into the program. Program administrators will assist with this access if needed.*

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Training Overview

Trainees will receive hands-on training on the Bridge2AI AI/ML for Clinical Care Network and leverage the data and tools to create practical use cases, putting their new skills to work in real-life situations and innovative data-driven research. Training will include:

- Workshops on using Jupyter Notebooks
- Workshops on using the OHDSI tool stack
- Workshops on the OHDSI/OMOP common data model
- Didactics on generative AI and specific use cases
- Instruction on creating practical use cases
- Virtual live courses and learning sessions
- Ongoing mentorship and support using Collaborative Cloud platforms
- Hands-on training on the Bridge2AI AI/ML for Clinical Care Collaborative Cloud

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Curriculum Overview

Hosts: MGB, UF, UTH, Tufts

Delivery: Live Online, Recorded, Asynchronous

Format: Didactic, Workshop, Office Hours, Self-Directed

Examples of Learning Sessions Provided:

Host	Lecturer(s)	Delivery	Approach	Topic and Description
MGH	Morteza Zabihi	Live Online	Didactic	**Machine Learning Basics** - Intro to ML methods for AI
UF	Zhenhong Hu	Self-Directed	Python Notebook	**Intro to Python & Version Control**
UTH	Debora Simmons	Recorded	Lecture	**Ethics of AI in Clinical Practice** - Safety, risk, and legal considerations
Tufts	Jared Houghtaling	Live Online	Didactic	**Working with EHR Data** for Research
MGH	Siril Singa	Workshop	Collaborative	**Data Schemas in Clinical Cloud**

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Curriculum Overview

AI-LEARN Curriculum for Bridge2AI Broad Learning Communities

Courses to leverage & sync DSTC_MHRI Workshops

Format: Online, self-paced with video lectures, case studies, and exercises.

Certification: Available upon completion.

Curriculum Offering	Target Audience / Purpose	Key Topics
AI/ML Essentials for Healthcare	No coding; healthcare workers	Intro to AI/ML, ethics, patient engagement
Advanced Decision-Making Models	Focus on model selection for healthcare	Statistical modeling, decision trees, healthcare use cases
Cutting Edge AI Training Modules	Keeping up with AI advancements	Integration with DSTC_MHRI workshops, latest AI/ML trends

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Curriculum Overview

AI-LEARN Curriculum for Bridge2AI Broad Learning Communities

Courses to leverage & sync DSTC_MHRI Workshops

Format: Sync workshops and panel discussions hosted by MHRI team

Titles	Key Topics	Format
Navigating IRB, Data Compliance, and Quality Assurance in AI/ML Healthcare Research	- IRB protocol drafting - HIPAA/GDPR compliance for OMOP/FHIR data - QA audit frameworks	Hands-on IRB drafting, MedStar Program managers/ IRB Chair Q&A, Compliance checklist toolkit
Hyperparameter Tuning, Model Selection, and Deployment for Healthcare AI	- Compare optimization techniques (e.g., Bayesian) - Model interpretability vs. performance - Docker deployment demo	Live session with real-world use cases
Bridging the Gap: Clinicians and Data Scientists on Methodological Challenges	- Align AI projects with clinical priorities - Address EHR data limitations	Panel (MedStar clinicians, data scientists), breakout consultations, live Q&A

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Program Trainee Objectives

Objective 1	Exhibit advanced expertise in AI/ML principles as they are applied to clinical care.
Objective 2	Develop and present use cases suitable to apply in Bridge2AI Data Topics.
Objective 3	Participate in collaborative research on the Bridge2AI Clinical Care Cloud platform, applying program insights and engaging with BRIDGE Center expertise for responsible AI/ML.
Objective 4	Prepare a compelling poster presentation for the AIM-AHEAD and Bridge2AI Annual Meetings, submit an abstract for a health informatics conference, and/or develop a manuscript for a peer-reviewed journal.

Outcome

After completing the program, trainees will understand how to develop real-world use cases and how to address concerns such as privacy in the responsible application of AI/ML. They will be equipped to engage in collaborative research on the Bridge2AI platform and will connect with a community of professionals dedicated to advancing the use of AI/ML in biomedical research.

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Trainee Expectations

In order to successfully complete the program, selected trainees must:

Time Commitment: Be able to commit to 8 hours per week (on average) of coursework and synchronous class sessions

Attendance: Attend one virtual, synchronous class session per week (day of the week and time TBD)

Assignments: Complete all assigned milestones and goals

Presentation of Work: Attend both the **AIM-AHEAD Annual Meeting*** (July 2026) and the **Bridge2AI Annual Meeting*** (May 2026) and present a works-in-progress poster.

*These are both in-person events and a travel allowance will be given to each trainee for travel expenses.

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Program Benefits

Stipend

An **$8,000** stipend upon successful completion of trainee milestones

Travel allowances to attend both the AIM-AHEAD Annual Meeting and the Bridge2AI Conference in 2026

Support

Support and guidance from an experienced **AIM-AHEAD mentor**

Support from the **AIM-AHEAD Data Science Training Core**

Direct 1:1 guidance, virtual office hours, helpdesk support, and concierge services **supporting R/ Python coding and the OHDSI tool stack**

Training

Training on:

- Introductory machine learning and feature engineering.
- The Bridge2AI AI/ML for Clinical Care Collaborative Cloud.
- Ethics and Policy issues in AI/ML.
- AI/ML for Clinical Care canonical Jupyter Notebooks.
- The OHDSI/OMOP common data model.
- Generative AI and specific use cases.
- Creating practical use cases during Bridge2AI topics.

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AIM-AHEAD Mentorship Process

Each trainee will be **matched with a mentor** who will provide mentoring and support throughout the training program. Mentors are matched with mentees using the Connect Platform. Mentorship matches are made using:

AIM-AHEAD CONNECT

- AI Algorithm
- Administrative Matching
- Mentor Pool Search

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Applicant Eligibility

Citizenship and Tax Requirements

- ✓ Must be a U.S. Citizen, Permanent Resident, or Non-Citizen U.S. National
- ✓ Permanent Residency must be established by Sept. 26, 2025
- ✓ Temporary visa holders (F1, J1, H1, etc.) are not eligible
- ✓ Accepted candidates must be able to submit a W-9 form

Participation Restrictions

- ✓ Current/former AIM-AHEAD program participants (awardees, fellows, trainees, mentors, advisors, coaches) are ineligible
- ✓ Applicants may apply to more than one AIM-AHEAD training program but can only be selected for one

Special Cases

- ✓ AIM-AHEAD Coordinating Center personnel and Federal employees may participate, but will not receive stipend or travel allowance

Note: Please refer to the full CFA on AIM-AHEAD.net for all eligibility requirements.

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Education & Experience

Education Requirements

- ✓ Minimum: Bachelor's degree in physical sciences, life sciences, math, statistics, data science, engineering, health sciences, or public health
- ✓ Eligible applicants include: post-baccalaureate and graduate students, postdocs, medical students/residents, allied health trainees, early-career investigators, and early-career professionals in non-academic institutions

Required Skills

- ✓ Prior programming experience
- ✓ Basic understanding of statistics
- ✓ Working command of English

Recommended Skills

- ✓ Coursework in probability and statistics or higher-level math
- ✓ Coding experience in R or Python
- ✓ Experience with data manipulation and management through coursework or research

Note: Please refer to the full CFA on AIM-AHEAD.net for all eligibility requirements.

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Eligibility Requirements

Eligible Organizations

- **Higher education institutions**
- **Nonprofits**
  (with or without 501(c)(3) status)
- **For-profit businesses and organizations**
- **Local, state, and tribal governments**
- **Other U.S.-based organizations**

  (e.g., school districts, housing authorities, faith-based, community-based, and regional organizations)

Email Requirement

In order to gain access to the dataset, you will need to have a ".edu" email address.*

*This requirement is not a barrier to acceptance into the program.

Program administrators will assist with this access if needed.

Note: Please refer to the full CFA on AIM-AHEAD.net for all eligibility requirements.

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Application Requirements

Submission Deadline: September 26, 2025 by 11:59 PM EST

Required Application Elements

- **Profile Information** (basic applicant details in InfoReady portal)
- **Letters of Support & Recommendation (two letters)**
  - Supervisor letter confirming protected time
  - At least one faculty recommendation (additional letters optional)

- **Academic Transcript** (undergraduate and, if applicable, graduate)
- **Biographical Sketch** (NIH biosketch or CV, max 5 pages)
- **Statement of Rationale** (≤2 pages) describing goals, need for training, relevant experience, and long-term plans

Important Note

- Applicants may apply to more than one program but can only be selected for one
- Applicants will rank program preferences in the application

**This is just an overview. Please see the CFA for the full list of application requirements*

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Application Process

Applications must be submitted between September 02, 2025 and September 26, 2025 at 11:59 PM EST

Note: Please use Chrome, Firefox, or Edge browsers.

1. Familiarize yourself with the program requirements outlined in the call for applications
2. Gather all of the required application materials
3. Create an account on AIM-AHEAD Connect and register as a "mentee/learner"
4. Submit application for review using the InfoReady platform

Up to 30 trainees will be selected

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Key Program Dates

CFA Release Date	September 02, 2025
Application Deadline	**September 26, 2025 by 11:59 PM EST**
Notice of Award	November 10, 2025
Program Start Date	**November 17, 2025**
Bridge2AI Conference 2026	May 2026
AIM-AHEAD Annual Meeting 2026	July 2026
Program End Date	**July 31, 2026**

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Questions?

SCAN ME

Please see the FAQ document linked above and in the chat

Scan the QR code above to access the AIM-AHEAD Bridge2AI for Clinical Care CFA.

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