AI Ready Mount Sinai (AIR·MS) Town Hall

Oct 2, 2025

Icahn School of Medicine at Mount Sinai

Meet the Team

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Agenda

1. **AIR·MS Updates**
   - Current Data Available
2. **AIR·MS Training & Support Updates**
   - Recap of Previous Training Sessions
   - Upcoming Training
   - User Ticketing System
3. **AIR·MS Chatbot**
   - New Link
   - Updated List of Language Models
4. **Minerva Updates on Training Sessions**

AIR·MS Updates

AIR·MS Updates

- SAP HANA upgrade. This upgrade includes:
  - Memory upgrade (3TB to 6TB)
  - Enhanced CPU Cores: Increased from 176 to 416
  - Data-Tiering Concept: We introduced a hot and warm data-tiering concept
  - Version Upgrade: We upgraded to the latest HANA release (HANA 2.0 SPS08)

- **We recently** incorporated the following new data modalities to AIR·MS:
  - Mount Sinai Million (indicator data)
  - ECG (metadata)
  - ECHO (metadata)
  - GI Research DB (Gastrointestinal Research Database)

AIR·MS Updates

- We are currently working on integrating:
  - EEG waveform data
  - Endoscopy reports
  - Bedmaster
  - ICU datamart
  - ECHO video data (DICOM)
  - ECG waveform data

AIR·MS Training & Support Updates

AIR·MS Training Updates

AIR·MS Training Sessions

- Apr 24, 1-2 pm EST – Introduction to AIR·MS
- Sep 30, 10-11 am EST - Getting Started with AIR·MS: Health Data Fundamentals
- Oct 07, 10-11 am EST - From ChatAI to AIR·MS: Leveraging Large Language Models
- Oct 21, 10-11 am EST - Advanced AIR·MS: Deep Dive into Data Modalities and AI/ML Applications

User Ticketing System

Advanced Support will be provided through a new ticketing support system:
https://hpims.atlassian.net/servicedesk/customer/portal/67

Updated Documentation

Updated AIR·MS documentation is available here:
https://labs.icahn.mssm.edu/minervalab/air-ms-artificial-intelligence-ready-mount-sinai/

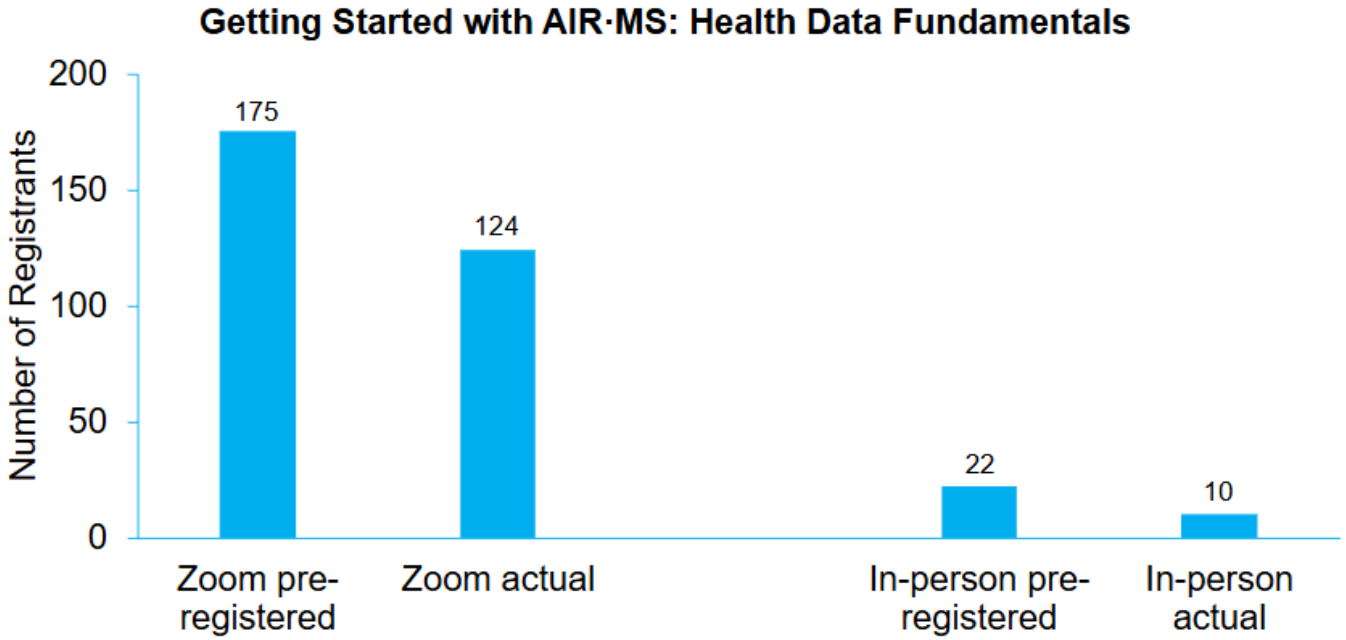
AIR·MS Training Updates

1 Getting Started with AIR·MS: Health Data Fundamentals

- Participants learned how to:
  - Understand data flow from EPIC to AIR·MS
  - Avoid common pitfalls in working with clinical data
  - Perform exploratory data analysis (EDA) in AIR·MS

- The session included a live demo notebook shared in advance
- The target audience for the first session was researchers, data scientists, and clinicians new to AIR·MS

AIR·MS Training Updates: Number of Participants



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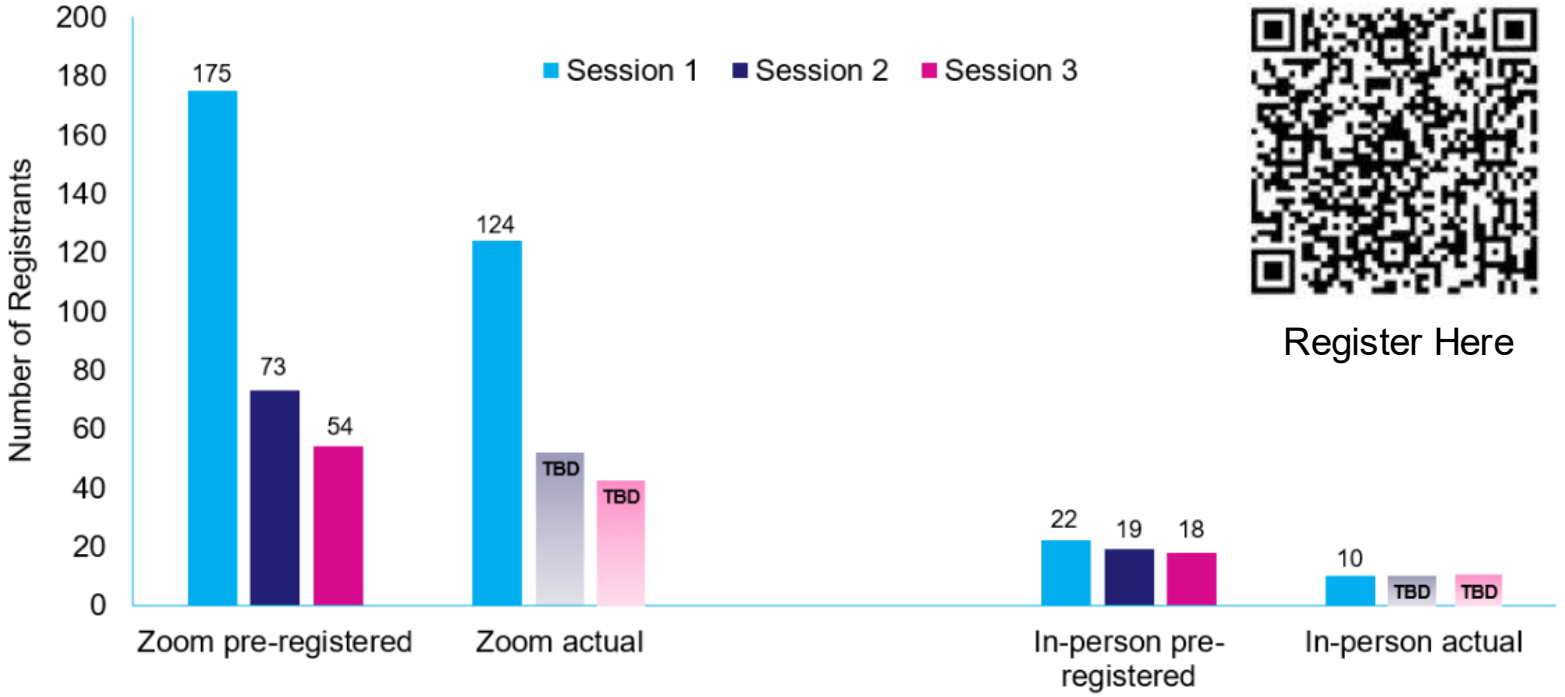
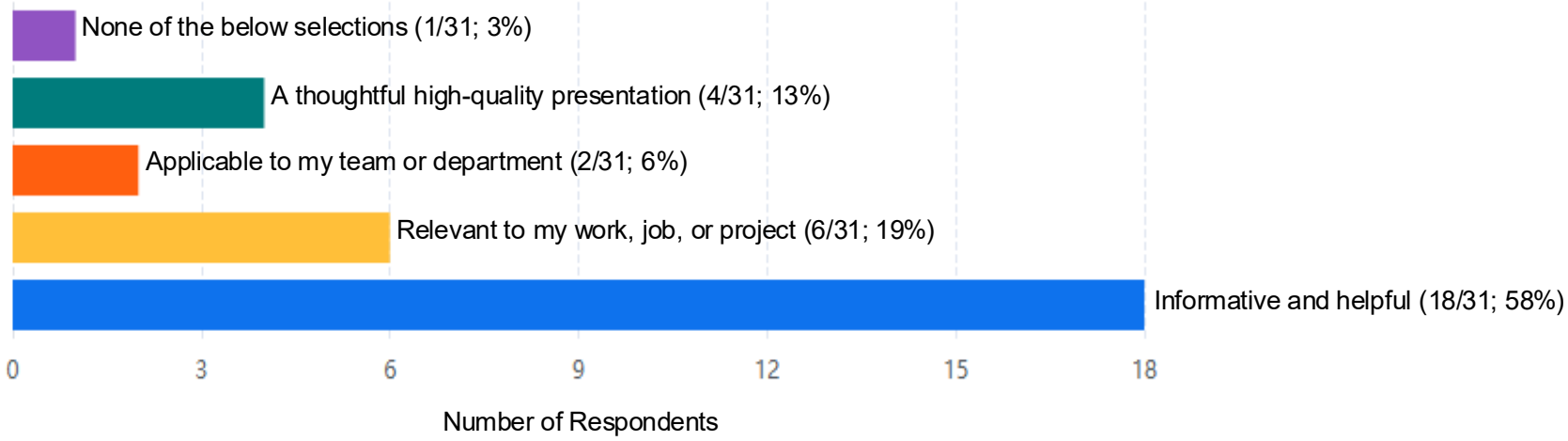


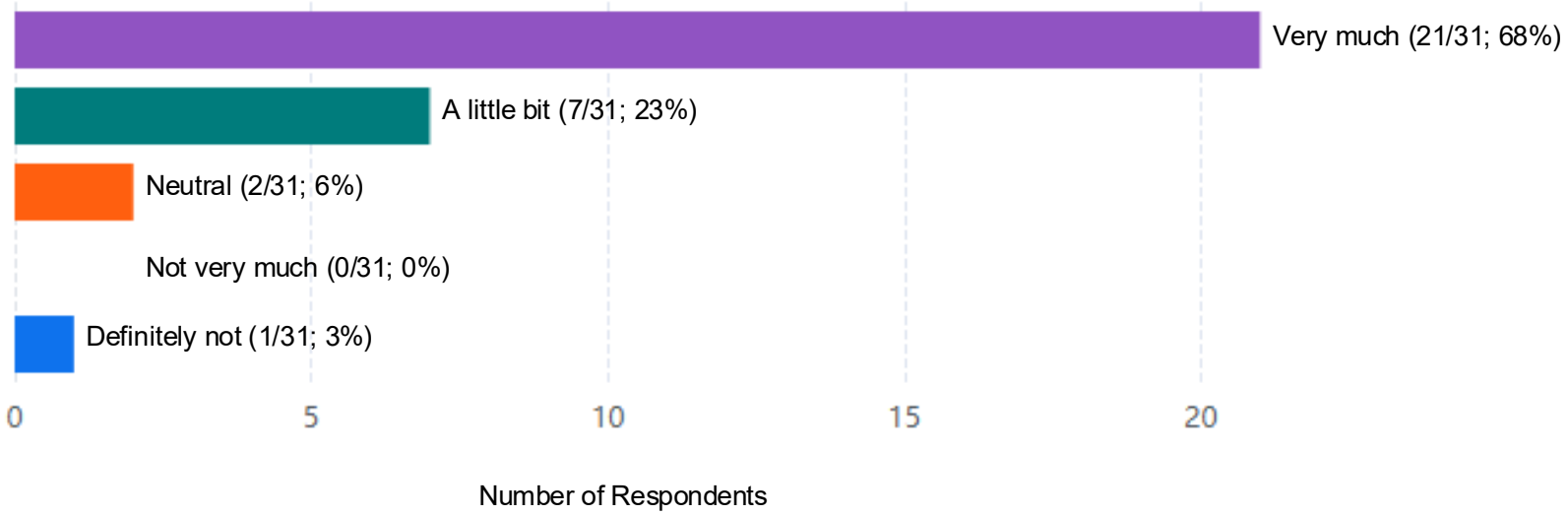
AIR·MS Training: Feedback From Session 1

- We had 31 respondents provide feedback for the post-training survey for Session 1: Getting Started with AIR·MS: Health Data Fundamentals.
- Of the 31 respondents, 4 attended in person and 27 via Zoom.
- **Respondents described the session as follows:**



AIR·MS Training: Feedback From Session 1

- Would you recommend this training to other users at Mount Sinai?



AIR·MS Training: Feedback From Session 1

What do you want to see in future sessions that was not part of the training in this session?

- Detailed query models.
- Use of R to perform the queries and data analyses.
- How to work with other clinical datasets on AIR.MS other than OMOP, such as endoscopy and colonoscopy reports.
- More information on HIPAA and patient information security issues.
- De-identification options for research collaboration with external institutions.
- Discussion of availability of de-identified radiology images.
- Any efforts towards NLP of free-text documents such as clinical notes and imaging reports.
- Separate mini sessions for each OMOP table. How to work with measurements, medications, observations, etc.
- How to link data from different tables to build our dataset for research.
- Need more details on the various vocabularies and how they interact.
- More hands-on material is required to get used to write specific SQL requests.

AIR·MS Training: Feedback From Session 1

Do you have any additional comments, suggestions, or feedback regarding the training session?

- A basic session for Admins and Managers who are not AI specialists would be helpful, so that they know what the rules surrounding usage are.
- Can I get a basic level access AIRMS without being a part of an IRB based project?
- Never really went into detail on what it was for and the application for my department.
- The session was a bit long and it was difficult to find where the notebooks that the session is talking about is located.
- Either be clear that the presentations are providing an overview and all the additional info is homework. Or offer more detailed hands-on tutorials.
- Andrew D. explains amazingly crucial things to know!! I wish we had more time on those interactive SQL - real-time practice parts.
- Overall, a very good seminar.

AIR·MS Upcoming Training

2 From ChatAI to AIR·MS: Leveraging Large Language Models

Tuesday October 7 (10:00 am – 11:00 am)
Hybrid In-Person & Zoom

Discover how on-premises open-source LLMs can support data exploration in AIR·MS.

This session covers:
- ChatAI demo.
- Using Ollama and AIR·MS within Python.
- Introduction to SQL
- How LLMs can help write and refine SQL queries.

Audience: Introductory users interested in AI tools for health data.

3 Advanced AIR·MS: Deep Dive into Data Modalities and AI/ML Applications

Tuesday October 21 (10:00 am – 11:00 am) Hybrid In-Person & Zoom

Explore advanced AIR·MS capabilities for multimodal research, with lightning talks on OMOP, pathology, radiology, echocardiography, and Mount Sinai Million.

- Includes an overview of ML infrastructure at Mount Sinai and a demo of multimodal AI workflows.

Audience: Advanced researchers/technical users.

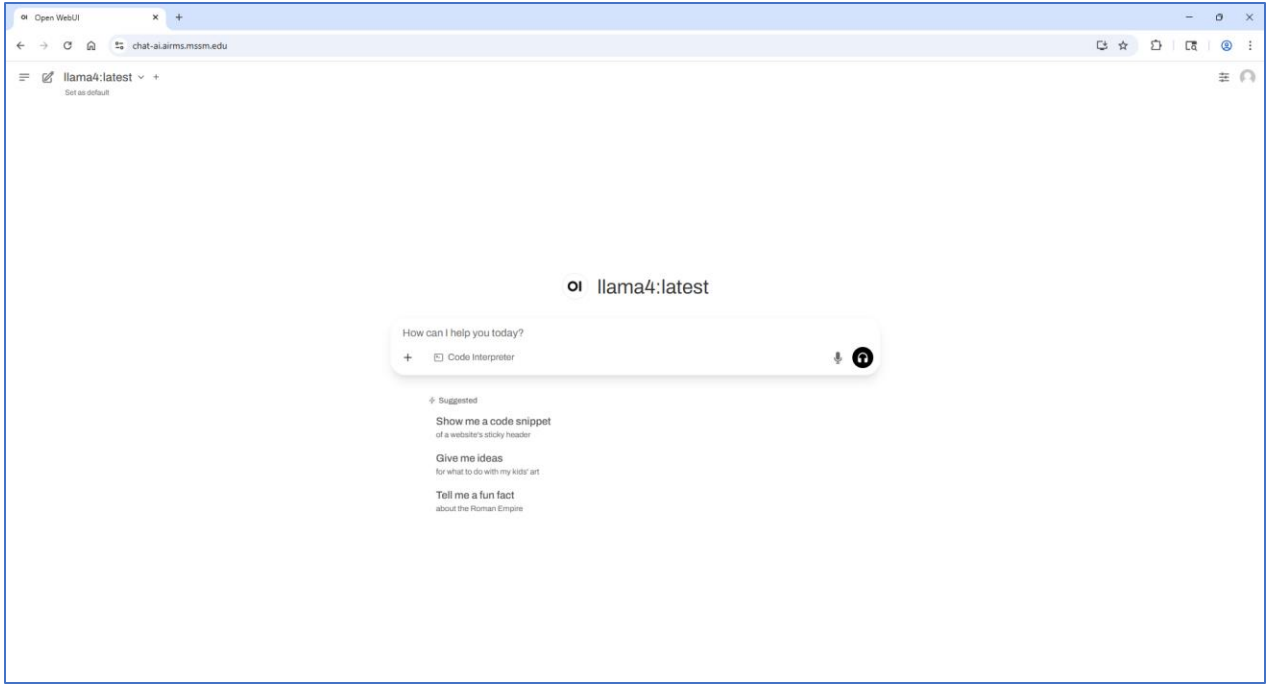
AIR·MS Chatbot

AIR·MS Chatbot

- We launched Chat AI, the AIR•MS Chatbot, several weeks ago
- The Chatbot using on Minerva, and leverages the extensive Graphics Processing Unit (GPU) resources
- The Chatbot is accessible to limited users through the URL: https://chat-ai.airms.mssm.edu
- It also incorporates several language models that you can easily switch between

AIR·MS Chatbot

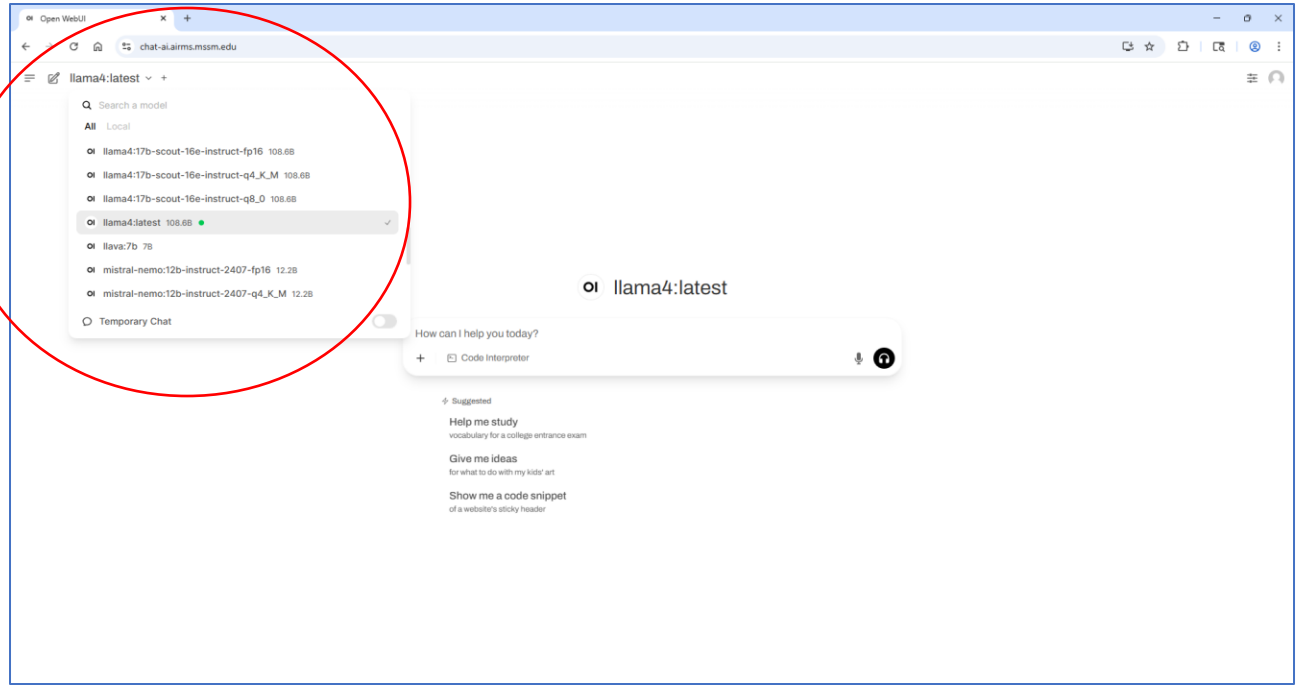
- The Chatbot can be used to develop queries for AIR·MS.



AIR·MS Chatbot

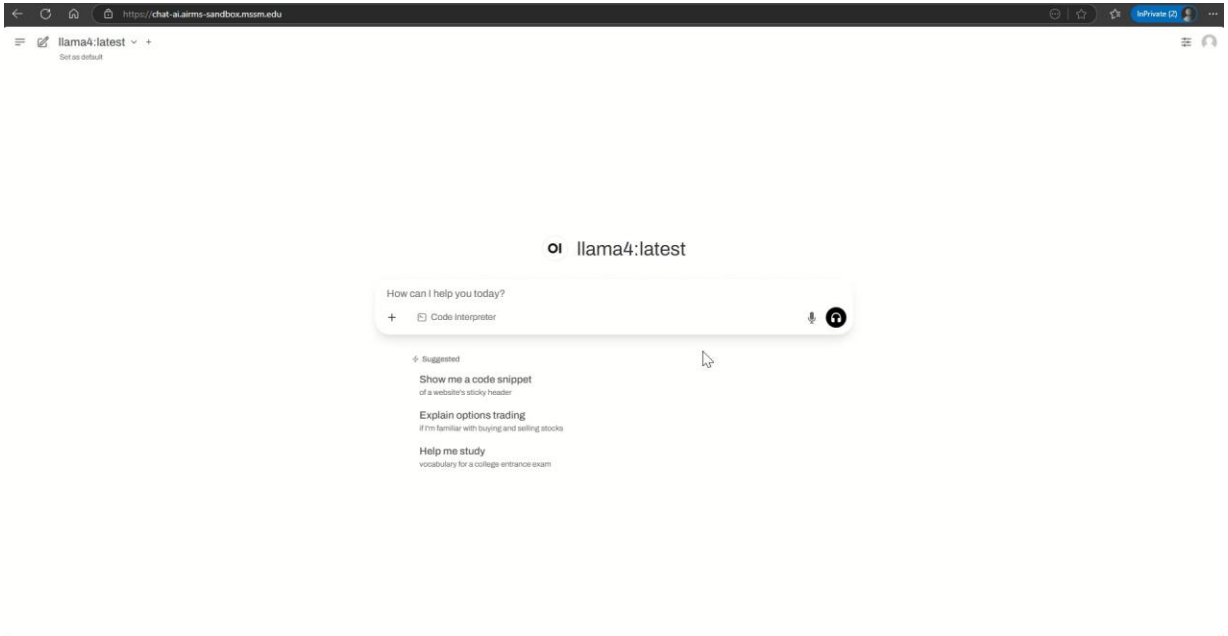
- Language models can be easily accessed and switched from the menu.

- Quickly compare models.



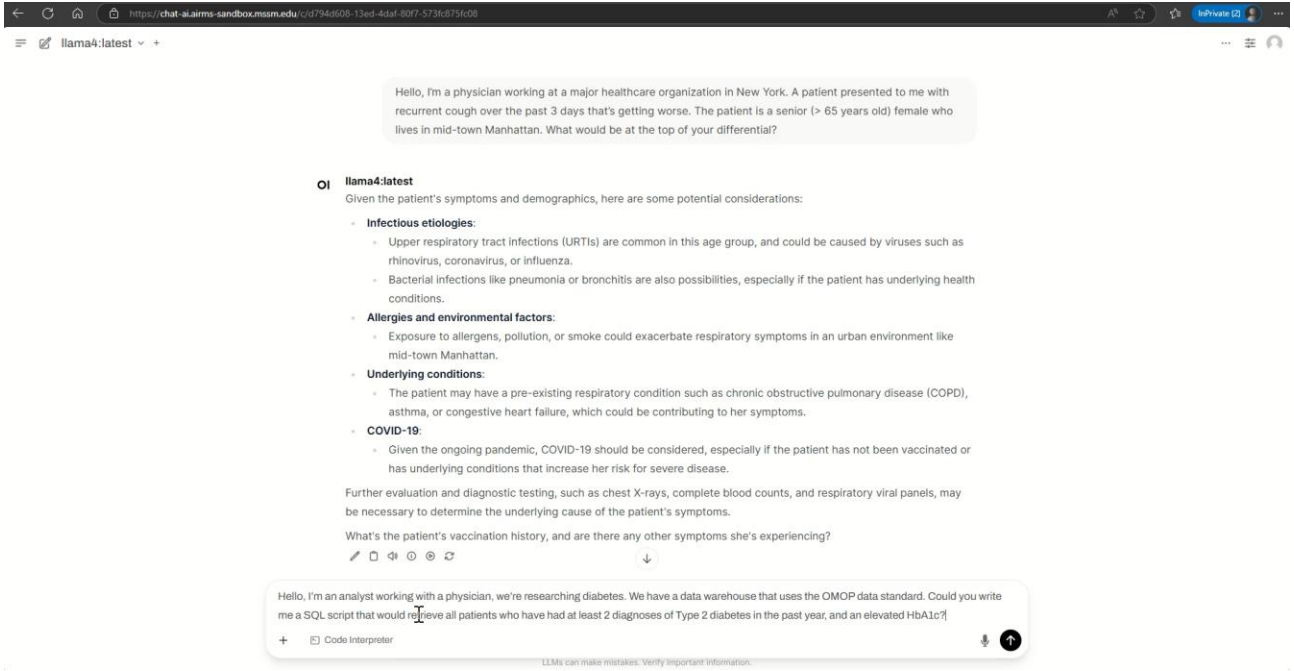
A Simple Prompt

- “Hello, I’m a physician working at a major healthcare organization in New York. A patient presented to me with recurrent cough over the past 3 days that’s getting worse. The patient is a senior (> 65 years old) female who lives in New York City. What would be at the top of your differential?”



A More Complex Prompt

- “Hello, I’m an analyst working with a physician, we’re researching diabetes. We have a data warehouse that uses the OMOP data standard. Could you write me a SQL script that would retrieve all patients who have had at least 2 diagnoses of Type 2 diabetes in the past year, and an elevated HbA1c?”



AIR·MS Chatbot

- If you're interested in testing the chatbot, please reach out to edwin.thrower@mssm.edu

- You will need to use the VPN or be on site at Mount Sinai to use the chatbot

- Enhancements (such as Mount Sinai specific content) coming soon!

Minerva Updates on Training Sessions

Minerva Updates on Training Sessions

- **Upcoming Minerva training sessions:**
  - Session 6: Access Minerva via web browser Open OnDemand – Friday, Oct. 3, 2025, 1-2 pm
  - Session 7: Leveraging Large Language Models in Biomedical Research – Tuesday, Oct. 7, 2025, 1-2 pm
  - Session 8: Introduction to Data Ark – Mount Sinai Data Commons – Friday Oct. 10, 2025, 1-1:30 pm
  - Session 9: Using Containers on Minerva and Accelerating Genome Analysis with Parabricks, Tuesday, Oct. 14, 2025, 1-2 pm

- **Minerva Town Hall** on New GPUs/AI resources available on Empire AI Computing Center (https://www.empireai.edu/) – Friday October 10 at 12:00 PM (noon)