



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION

Discovery Session: Artificial Intelligence and IIS

January 13, 2025
4 PM ET



Agenda





Today's Presenters

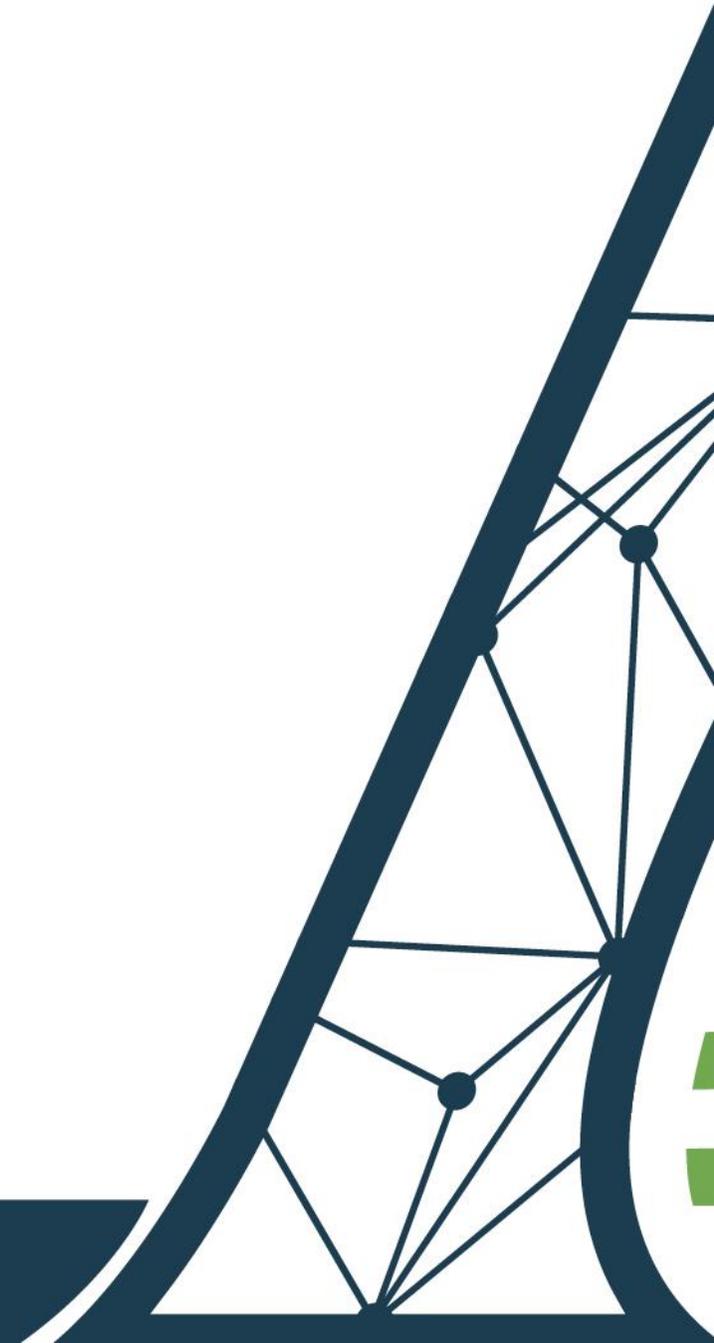
- **Jamie Pina, PhD, MSPH**, Senior Director, Center for Data Modernization Solutions, RTI International
- **Rachel Favero**, MIIC Engagement Unit Supervisor, Minnesota Department of Health



Artificial Intelligence: Applications for IIS

Jamie Pina, PhD, MSPH, FAMIA
Senior Director, Center for Data Modernization Solutions
RTI International

Nathan Bunker
Senior Technical Standards Architect, AIRA



Agenda

- Introduction
- AI and AI History
- Large Language Models
- Current Impact
- Different types of AI
- AI in Public Health and IIS



What is Artificial Intelligence?

AI refers to machines or systems that simulate human intelligence, particularly in performing tasks that typically require human cognition



Types of Artificial Intelligence?

Narrow AI also known as “weak AI,” focuses on performing specific tasks within a limited domain

Generative AI (genAI) refers to artificial intelligence systems that can create new, original content, such as text, images, or music, by learning patterns and structures from existing data.

General AI refers to highly autonomous systems that feel like they possess human-level intelligence and can handle various cognitive tasks across different domains. Still considered theoretical.



AI (probably) available to you



ChatGPT, GPT
APIs, DALL·E

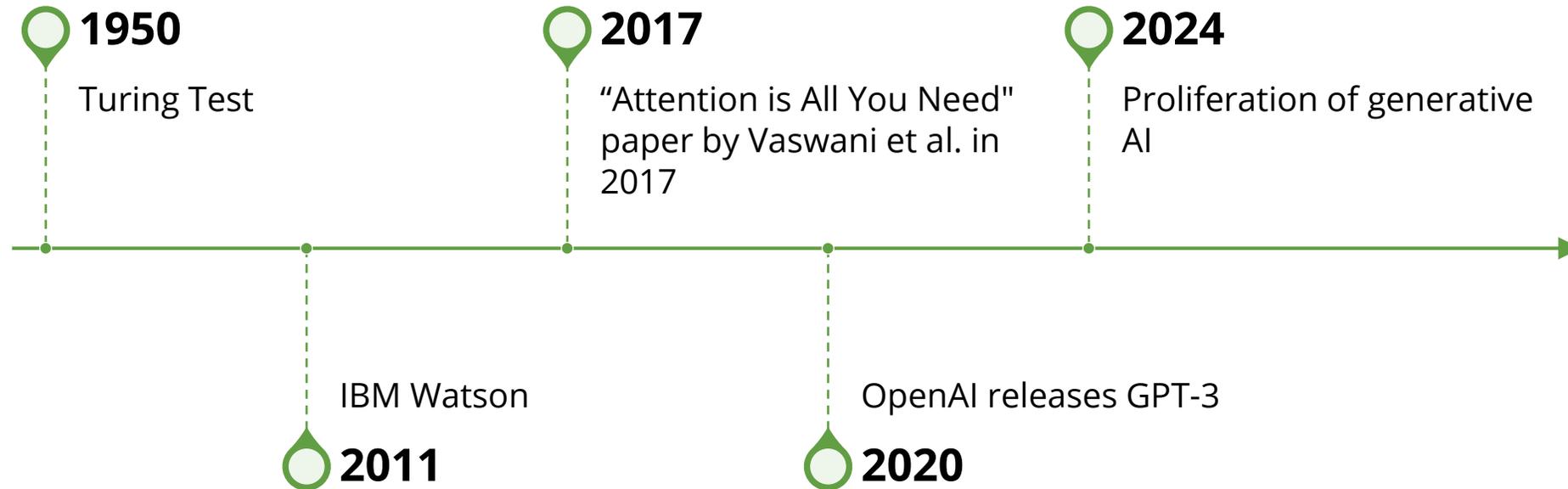
Gemini, Bard,
PaLM 2

Claude

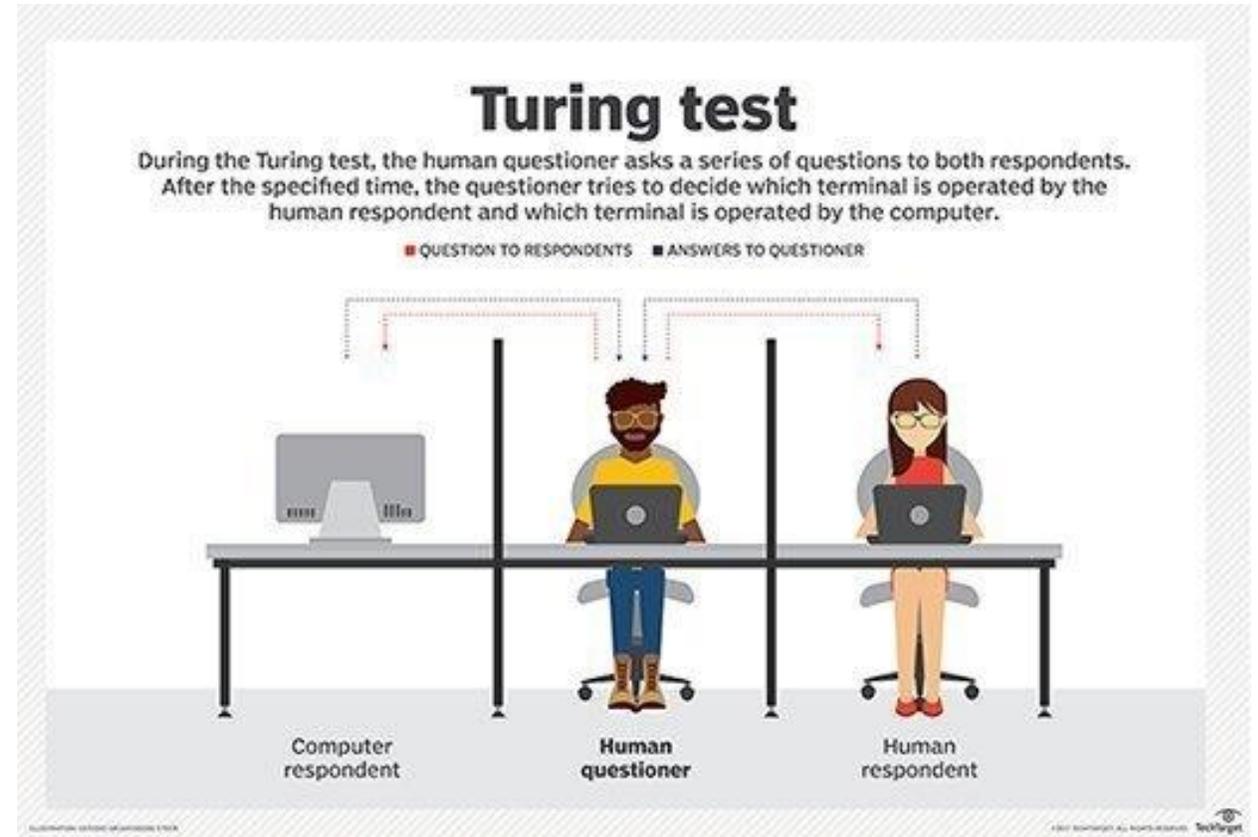
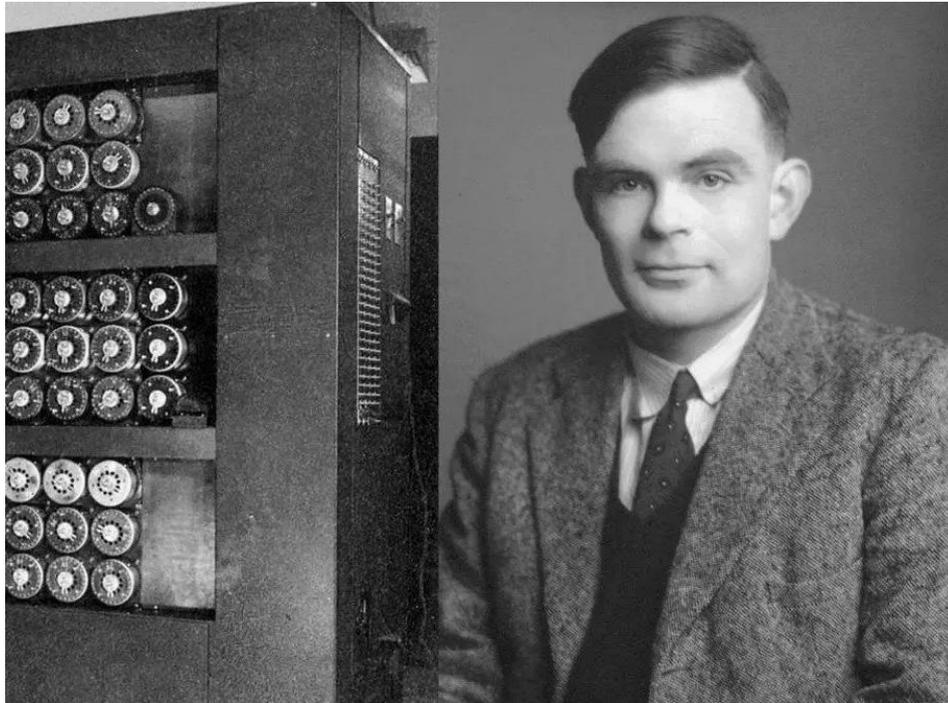
Threads, WhatsApp



Significant events in AI?



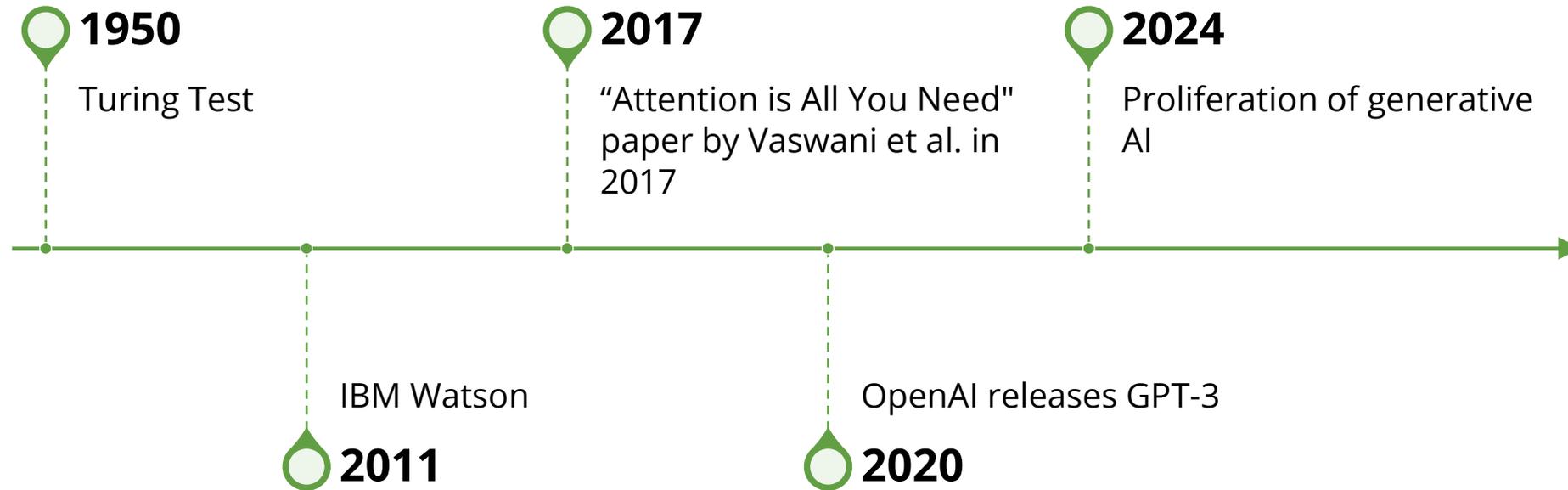
Alan Turing



<https://www.techtarget.com/searchenterpriseai/definition/Turing-test>



Significant events in AI?



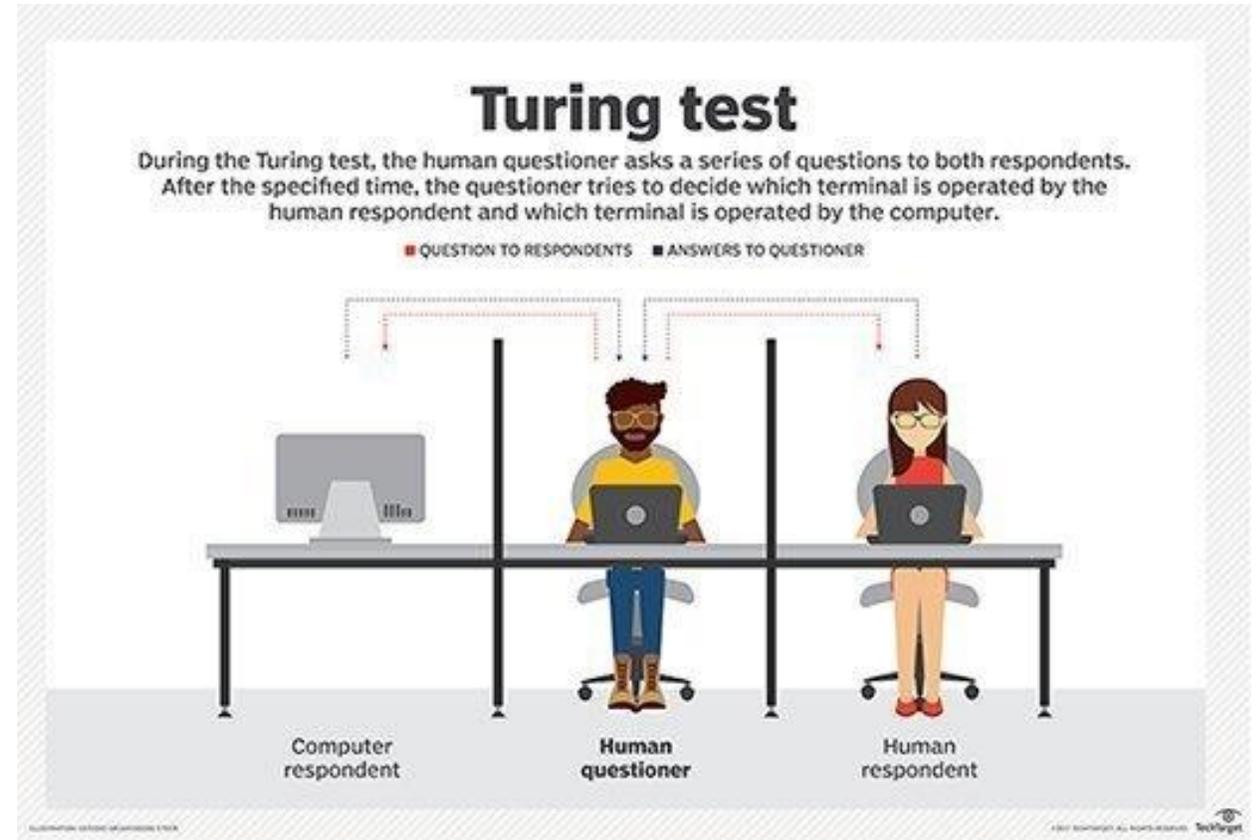
Transformer Attention Mechanisms

Transformer attention mechanisms enable models to dynamically focus on different parts of the input data, improving “understanding” and processing of natural language

- Contextually-Relevant Output
- Parallel Processing
- Scalability
- Flexible



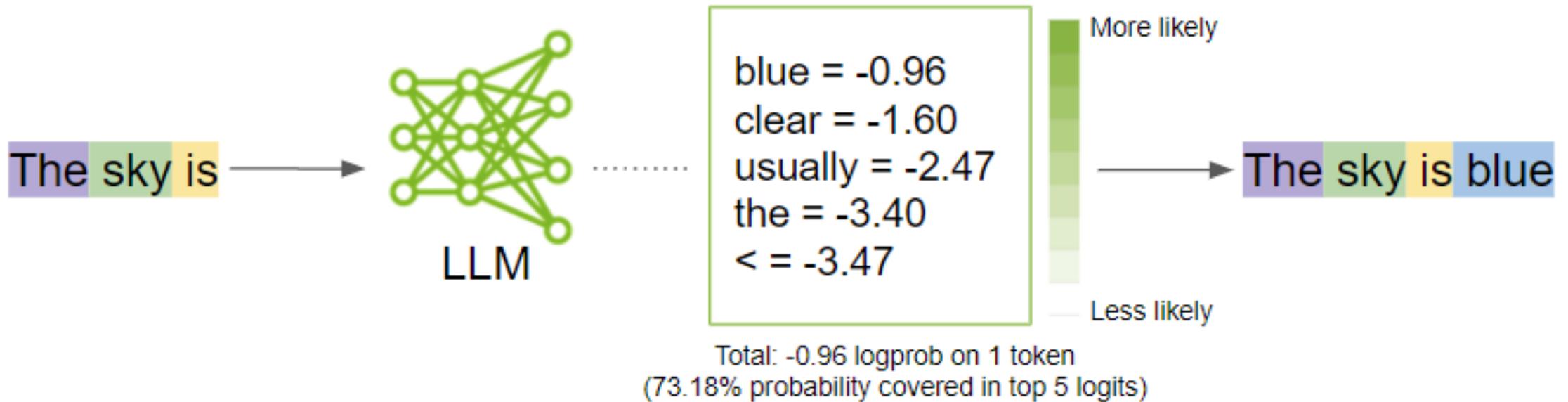
ChatGPT



<https://www.techtarget.com/searchenterpriseai/definition/Turing-test>



What is a Large Language Model?



Components of a Language Model?

Model (defined architecture)

Large body of data (training set)

Transformer Attention Mechanisms

GPTs (Generative Pretrained Transformers) are accessed through various interfaces



What an LLM might do for you...

- Summarizing reports and provide data insights
- Generating FAQs and knowledge base articles
- Assisting with grant applications and policy documents
- Supporting stakeholder communications
- Translating materials
- Explaining complex concepts
- Identify research material or data
- Provide first-drafts of narrative text



LLM Risks and Opportunities

- Reinforcement of bias
- Content disputes
- Hallucinations
- “Recursive Ingestion”
- Ethical Integration



Summary

- Improvements in AI are exciting
- AI can help us improve work faster and smarter
- AI will not replace our workforce
- We have been using AI for decades
- We need to look for new ways to use AI





MIIC Chatbot

Agenda

- Background
- Why a chatbot?
- What did we ask for?
- What did we get?
- Key considerations
- Future phase
- Questions

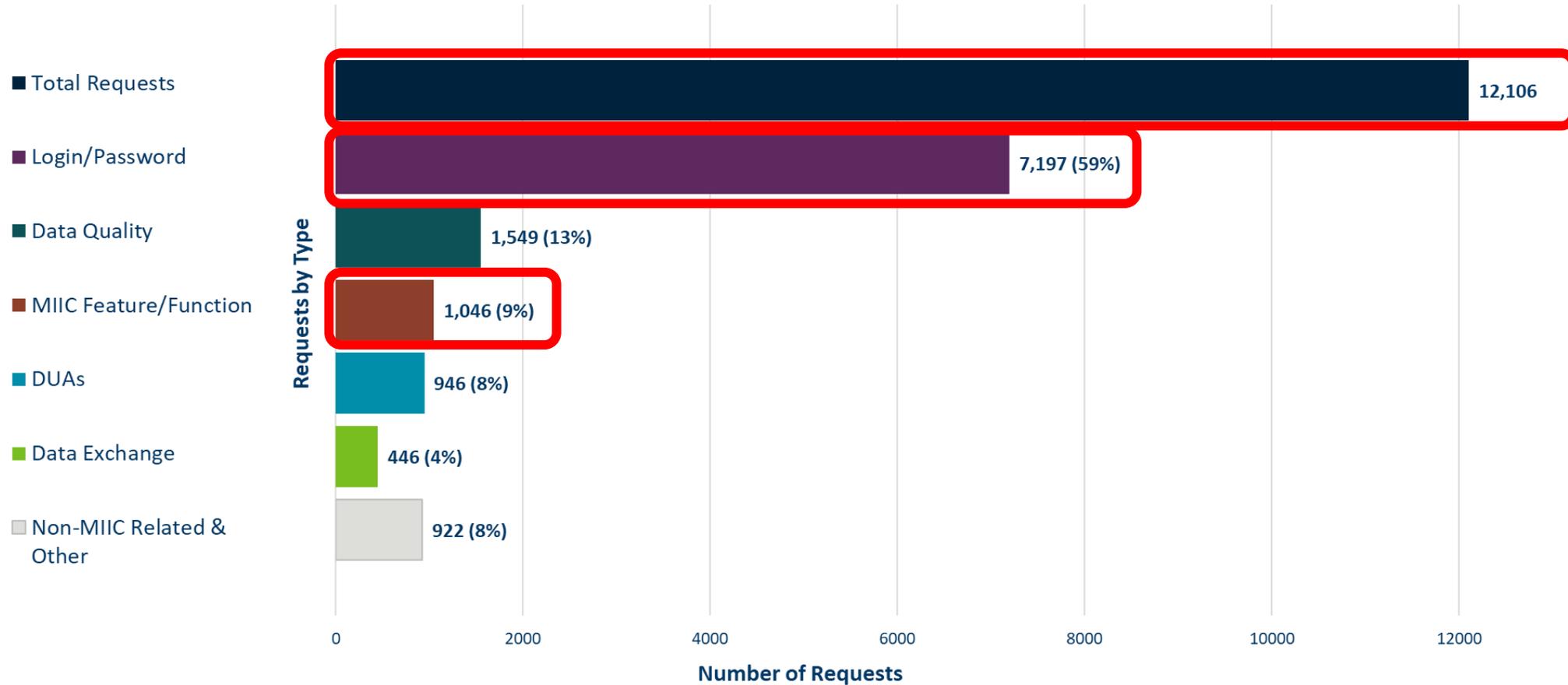
Background: How did we get here?

- MIIC Provider Help Desk pain points
 - Repetitive emails/responses
 - Lack of standardization
 - Staffing model
- Started REDCap Tracking
 - Types of questions
 - Volume/Timing of questions



MIIC Help Desk Data

MIIC Help Desk Total Requests in 2024



Why a Chatbot?

- Chatbot can automate help!
 - MIIC login/passwords
 - Account reactivation
 - User Guidance
 - Info on our webpages
- Can't help? → Creates case for MIIC Provider Help Desk



AI Governance

- Transparent Artificial Intelligence Governance Alliance (TAIGA)

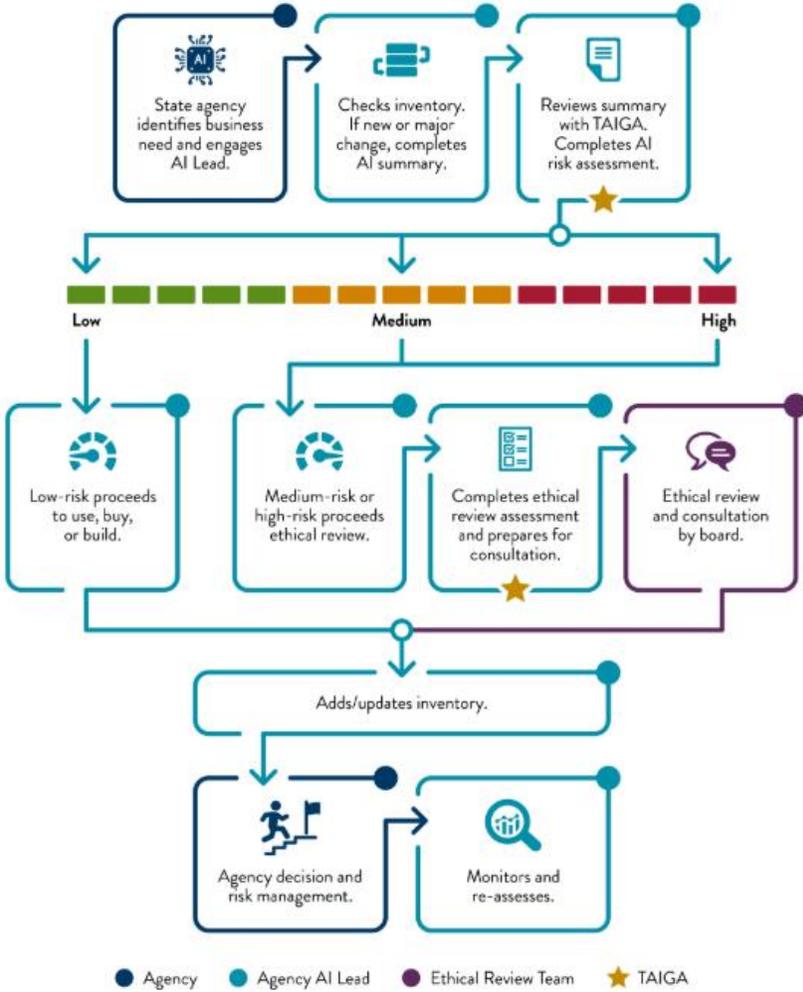
 - <https://mn.gov/mnit/taiga/>

- Agency AI leads

- What do we mean by AI?

 - MS word grammar check versus ChatGPT

- Operate within existing data practices policies, ethical review board, etc



What we asked for from vendors



Chatbot that could...

- Use AI to review our public facing materials and respond to user questions
- Send IIS users the contact information for their IIS administrators
- Learn and get better at responding to users

What did we get?

- Chatbot that can use our pre-written responses to pre-set menu items
- Chatbot that cannot send IIS organization administrator contact information (need to authenticate users)





Key considerations

Key considerations

Considerations

- Use of terms “AI” and “Learn” are everywhere but not all products are AI

Actions to take

- When searching for a vendor, ensure you understand how the product works. Ask to see detailed demos.
- Ask for detailed descriptions on how the product is maintained.
- Ask where the information will be stored that is needed for the product to function

Key considerations

Considerations

- Who needs to approve?
- Where will chatbot be hosted?
- Nomenclature/jargon

Actions to be taken

- Document who will need to approve use of the product and its written contents
- Existing state website, new product website
- Work with your team and any vendors to agree and define terminology

Key considerations

Considerations

- Does the vendor know what we do?
- Cost
- Time

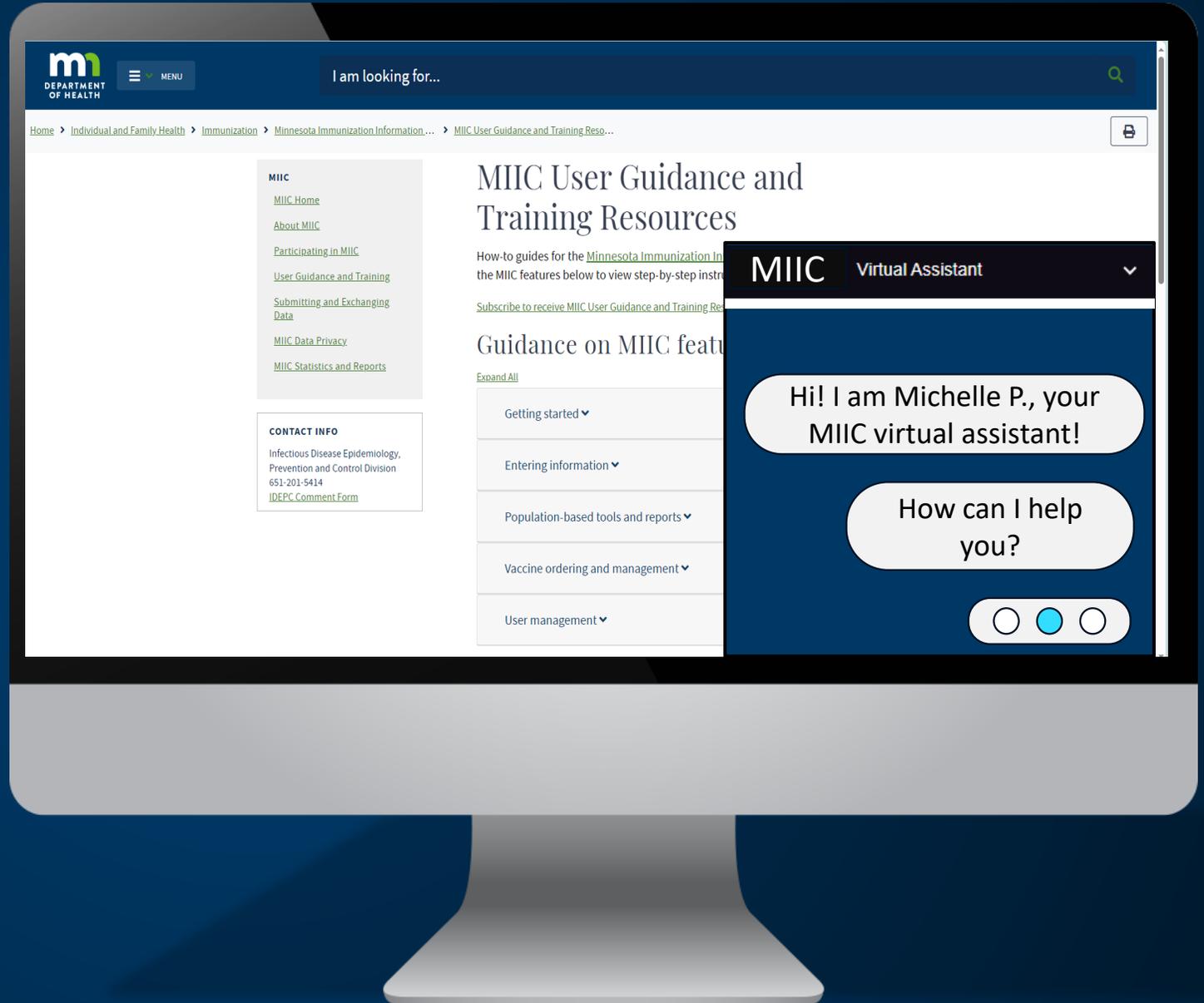
Actions to take

- PHI, privacy/security
- Understand costs
- Pad in time, try to plan/anticipate

Key considerations

- Where is the data coming from?
- Chatbot is only as good as your data
- “knowledge articles”
- Manual upload versus integration with IIS

Michelle P.
Miichelp@



Future phase: using AI

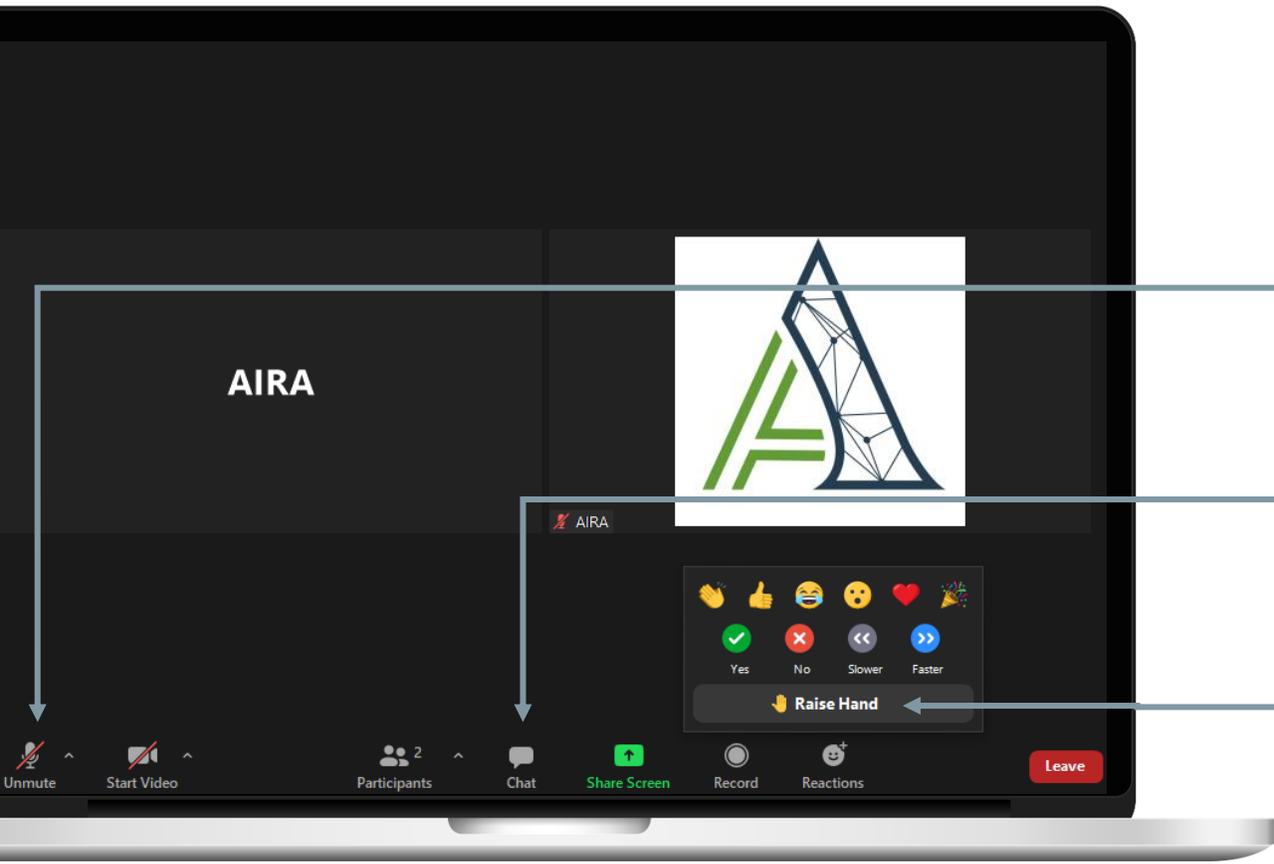
- Employ AI chatbot that can review our website materials and respond to unique, nuanced questions from users
- Employ AI chatbot that can learn and get better at responding to users
- Employ AI chatbot that can authenticate users and respond with some limited information (eg, who is their MIIC administrator)
- Develop quality assurance approach for AI chatbot
- Track changes in questions coming into our Help Desk
 - Timing, volume, types of question

Thank you!

Rachel Favero (rachel.Favero@state.mn.us)

Aaron Bieringer (aaron.Bieringer@state.mn.us)

Question & Answer



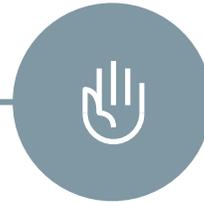
How do I ask a question?



Select the unmute icon and ask your question verbally.



Select the chat icon and type your question into the chat box.



Select the reactions icon, select "Raise Hand," and you will be called on.



Optional Pre-conference Workshop at #AIRA2025

Project Management Essentials: Leveraging AI for Efficiency

- Learn foundational project management practices while integrating AI to streamline processes and optimize workflows
- **Monday, April 28**, 9 a.m. to 12:30 p.m. PT before the AIRA 2025 National Meeting in Spokane, WA
- Visit www.airanationalmeeting.org to register



Thank you to our presenters,
and thanks to all of you for
joining us!

Please complete a brief evaluation survey.

The next Discovery Session
will be on **February 24, 2025**