Boston Children's Hospital's Academy for Teaching and Educational Innovation and Scholarship

# Spring Education Retreat: Al in Health Professions Education

Friday, May 16, 2025 2:10 – 4:00 pm ET

We will get started shortly at 2:10 pm.

#### AGENDA

- o 2:10 2:20 Academy Welcome, Announcements, and Introduction
- o 2:20 2:55 Prompt Basics + TRACI Framework & Prompting Warm-up
- o 2:55 3:00 Break
- o 3:00 3:40 Sandbox Activity Al and Curriculum Design Exercise
- o 3:40 4:00 Debrief & Retreat Conclusion



# ANNOUNCEMENTS

# Health Professional Education Innovation (HPEI) 2025 Grant Recipients



#### Julie Barzilay, MD, MPhil

Developing a Trauma-Informed and Family-Centered Educational Toolkit for Family Meetings on the Pediatric Hospital Medicine Floor Using Qualitative Methods and Co-Design



Kate Donovan, PhD, MBA, MS & Elizabeth-Anne King DNP, RN, NE-BC, CPN, CPHQ CyranoHealth 2.0: Advancing Augmented Reality Training for Nursing Education with Apple Intelligence Integration



**Megan Hannon, MD**Development of Pediatric Orthopedic Medicine Curriculum Standard



**Courtney Verscaj, MD** *Enhancing the Education of Bedside Providers on Neonatal Genetic Diagnosis* 



Jayme Wilder, MD

Enhancing Pediatric Clerkship Feedback: Evaluating the Impact of Core Faculty on EPA Evaluation and Meaningful Feedback for Students

## 2025 – 2026 BCH Academy Request for Applications



June 3<sup>rd</sup> – July 11<sup>th</sup>



# BCH Academy Membership AY24-25 Annual Report



June 17<sup>th</sup> – August 11<sup>th</sup>



## RETREAT PLANNING TEAM



Lori Newman, MEd



Alan Leichtner, MD, MSHPEd



Kate Donovan, PhD, MBA, MS



Traci Wolbrink, MD, MPH



Donna Luff, PhD



Dan Schwartz, EdM



Ginny Do, BA

## Today's Facilitators



#### **CEEI Team & Academy Education Leads**

Ellen Brennan, PT, DPT, PCS Alex Butler, MD Derrick Chu, MD Kate Donovan, PhD, MBA, MS Julie Ecker, BA, CAPM Kaytlyn Hope, MHA, C-TAGME Andy Lamberto-Wilson Donna Luff, PhD Lauren Giancola, RN, AE-C Alan Leichtner, MD, MSHPEd Kelsey Miller, MD, EdM Colleen Molinari, MSN, RN Lori Newman, MEd Jill O'Hara, MD, MPH Dan Schwartz, EdM Traci Wolbrink, MD, MPH



Brett Adkins Tim Driscoll Sarah Lindenauer, MPH Dinesh Rai, MD

### **BCH Computational Health Informatics Program (CHIP)**

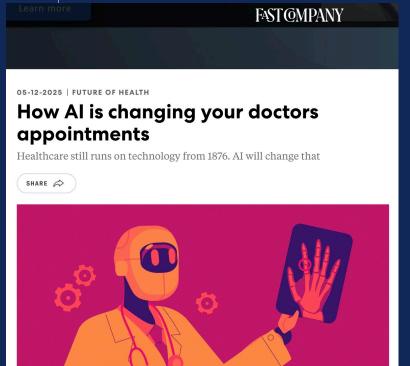


Tony Manry, MS, MBA Timothy Miller, PhD

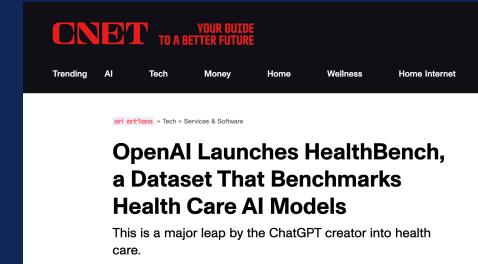
## Objectives

- Identify the basics of generative AI and large language models (LLMs)
- Learn and practice using the TRACI Prompting Framework
- Use Al to develop four elements of Kern's curriculum design model
- Reflect on what AI can and cannot do well
- Leave with tools and confidence to integrate AI into their own work

#### FDA Announces Completion of First AI-Assisted Scientific Review Pilot and Aggressive Agency-Wide AI Rollout Timeline













[Source Illustration: Freepik]

May 12, 2025 05:00 AM | UPDATED 18 HOURS AGO

Al health risk assessments aim to boost Medicare Advantage pay

NONA TEPPER X ☑

INSIDER

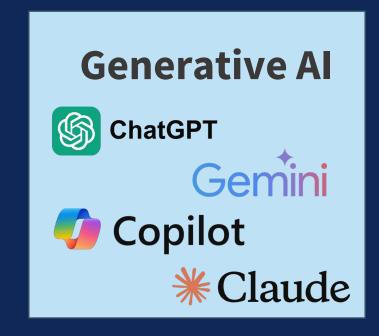
Palantir Technologies (PLTR): AI Partnership with Joint Commission Targets Healthcare Innovation

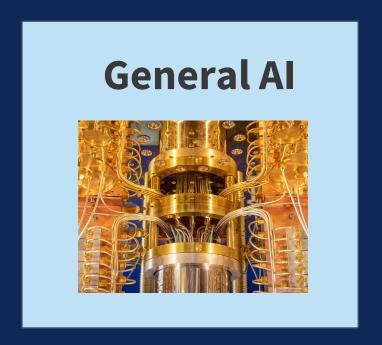
Artificial Intelligence



## Types of Al







## Large Language Models (LLM)

- Type of Al trained on vast amounts of text to predict and generate language in a way that feels human.
- o It doesn't "think" or "understand" like a human
  - o uses probability to figure out the most likely next word, sentence, or idea based on what you've asked it

"It's not that they know things - it's that they act like they know things, and that can be incredibly powerful." — Ethan Mollick



### Large Language Models (LLM)

- o LLMs are prediction engines. They don't know facts; they know patterns of language
- They can reason, summarize, teach, create, and simulate personalities or experts - all by learning from the patterns in language
- o They don't have consciousness or intent

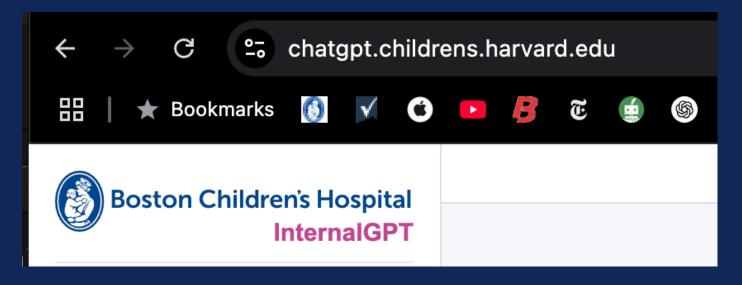
"It's not that they know things - it's that they act like they know things, and that can be incredibly powerful." — Ethan Mollick





#### Where do the results come from?

- o Information publicly available on the internet
- o Third party partnerships
  - o Microsoft
  - o Salesforce
  - o Shutterstock
  - o The Associated Press
- o Information that users, human trainers, and researchers provide or generate.





## Prompt

The input or instruction you provide to an AI model to guide it in generating a specific output

## TRACI Prompting Framework

Task	What do you want the AI to generate? (i.e., objectives, quiz, strategy)
Role	Who is the AI pretending to be? (i.e., medical educator, nurse leader, attending physician)
Audience	Who is the output intended for? (i.e., nursing students, residents, respiratory therapists)
Create	What is the clinical or educational setting?
ntent	What tone or goal do you want the AI to adopt? (e.g., trauma-informed, inclusive)





## TRACI Prompting Framework

Teaching Nurses How to Use Inhalers with Pediatric Patients

Task	Develop a patient education handout
Role	Pediatric Pulmonology Nurse Educator
Audience	Inpatient pediatric nurses
Create	An easy-to-understand handout using plain language
ntent	Improve nurse confidence in teaching inhaler use





## TRACI Prompting Framework

#### What can I help with?

Act as a pediatric pulmonology nurse educator. Create a one-page visual handout that helps pediatric nurses teach children and their families how to use an inhaler with a spacer. Include child-friendly language, simple step-by-step visuals, and one pro tip for common issues like breath timing. The goal is to improve nurse confidence and family understanding.



⊕ Search



√ Deep research











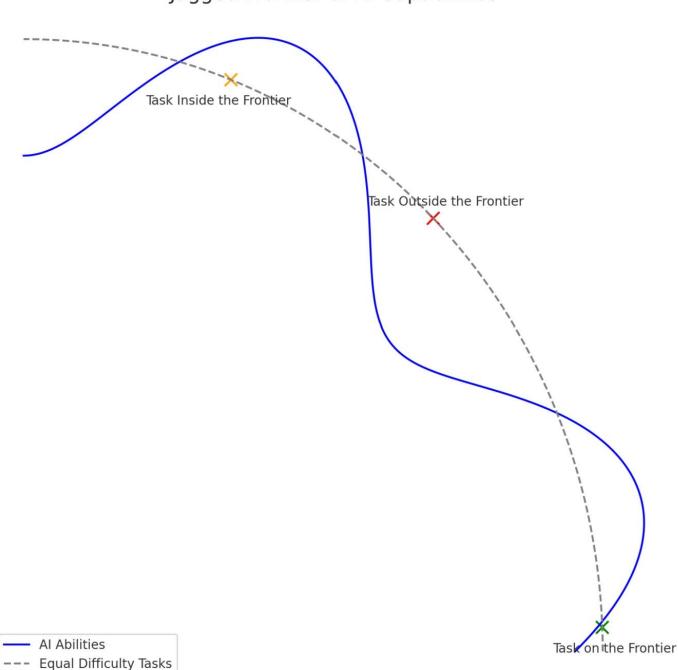






# JAGGED FRONTIER

#### Jagged Frontier of AI Capabilities



#### **Bias & Equity Transparency & Informed Consent** · Developing Al literacy and competencies for just · Developing guidelines for various Al applications Al-augmented patient care · Addressing the Al's 'black box' like other uncertainty in · Thinking critically about racial/ethnic bias that may be part of databases underlying Al aids to clinical · Explaining Al's role to patients reasoning Ð Automation Bias & †! Resource Allocation Skill Preservation Learning and teaching how Al · Utilizing 'Hybrid' Intelligence systems can promote justice healthcare · Enhancing critical thinking **Al Ethics Considerrations** & Education 8 Safety & Quality Assurance Cybersecurity & Confidentiality · Creating Al-specific processes for · Coordinating with health systems' and quality assurance universities' information security · Teaching Al-specific ethical · Applying stricter security policies to reasoning prevent data 'de-anonymization' by sophisticated Al capabilities **Human Interaction & Compassionate Care** · Developing compassionate practitioners · Developing ethical reasoning · Considering patients' concerns

## Maintaining Educational Integrity with Al

#### **Quality Control**

Review and refine all AI-generated content.

#### **Personalization**

Add expertise, storytelling, and real examples.

#### **Academic Integrity**

Cross-check sources and verify data.

#### **Effective Teaching**

Focus on facilitation, not just slide design.





#### PROMPTING EXAMPLES | TRACI FRAMEWORK

#### OK

"A lesson plan about multiplying fractions for 5th graders"

#### **BETTER**

"Act as an expert mathematician and a teacher skilled in designing engaging learning experiences for upper elementary students. Design a lesson plan about multiplying fractions for 5th grade students."

#### **BEST**

"You are an expert mathematician and teacher skilled in Universal Design for Learning. Design an accessible lesson plan about multiplying fractions for 5th grade students interested in soccer. The lesson should include a hands-on activity and frequent opportunities for collaboration. Format your response in a table."



**More Effective** 



## PROMPTING PRACTICE ROUND





## BREAK UNTIL 3:00

Please stay on the Zoom as we organize the Sandbox Activity beginning after the break. Thank you!



#### DEBRIEF

- What surprised you about the use of AI?
- What are you worried about?
- What are you excited about?
- What do you want to learn more about?

# THANK YOU

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