Real Patient Cases: Pediatric Video Visual Diagnosis
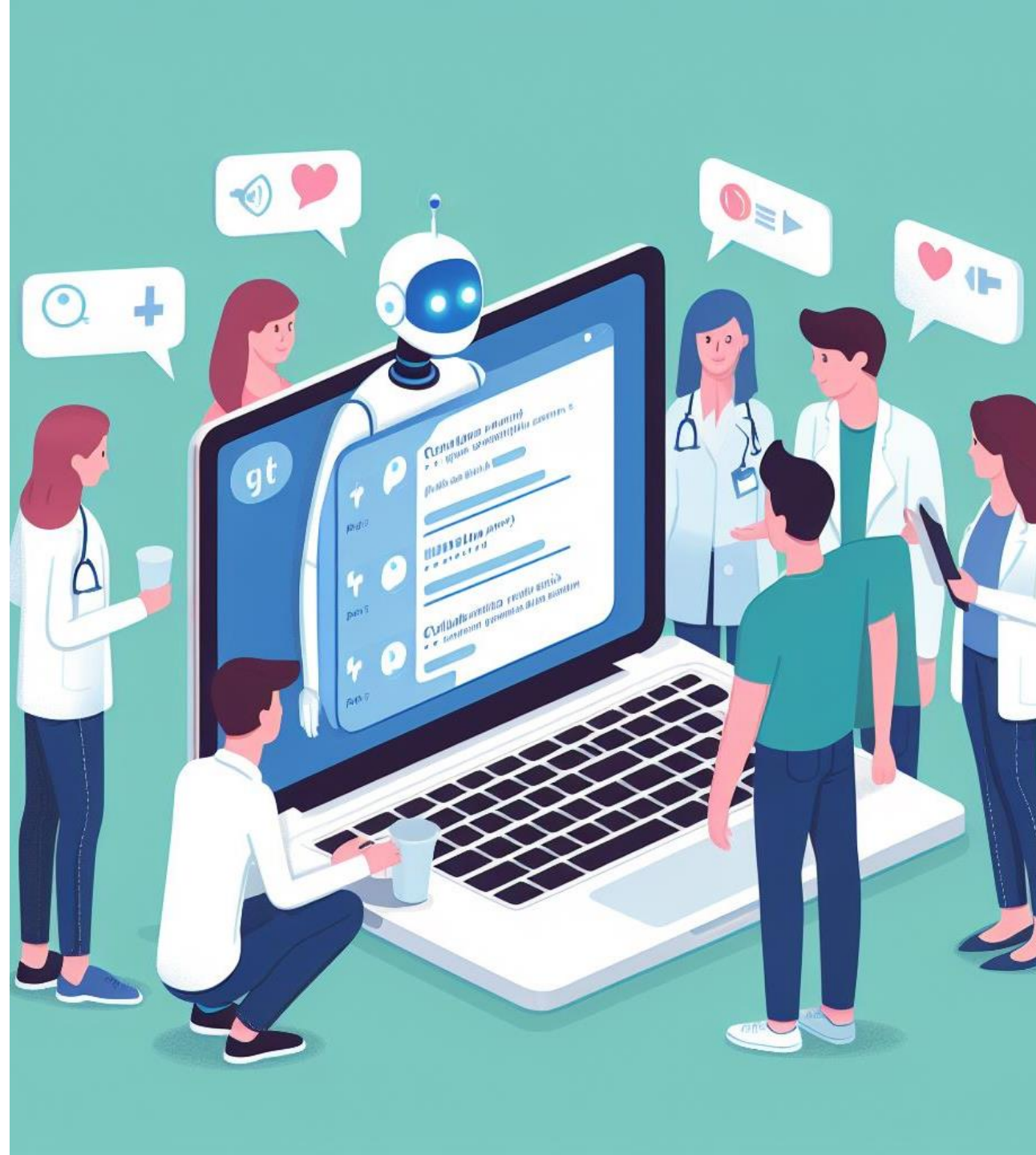
April 18, 2024

Background

UAMS Section Chief, Pediatric Emergency Medicine
University of Arkansas for Medical Sciences and Endowed Chair of Pediatrics, University of
Arkansas for Medical Sciences

ReelDx Chief Medical Officer

ReelDx CEO

23 years in education
AI Enthusiast

Benefits of Using Real Patient Videos

1. **Authenticity** – Real emergency situations presented from the interview to the disposition

2. **Enhanced Engagement** – Student engagement and adaptability increase when teaching tools are immersive

3. **Flexibility** – On-demand even outside of the classroom; able to be paused and reviewed

4. **Diversity** – Huge library to capture the diversity of the real world

Student
Feedback

Student Assignment Example

Case 919 - Acute onset, generalized weakness and rash status-post insect sting.

Incident history - During yard work, pt was attacked by hornets resulting in allergic reaction.

Vital signs
- Gender: Male
- Age: 28
- Temperature: 98.0 F / 36.67C
- Blood Pressure: 151/118
- Heart Rate: 145
- Respiratory Rate: 18
- Pulse Oximetry: 100%

Signs and Symptoms
- Attacked by hornets.
- Weakness
- Full body rash
- (Relative) Shortness of breath
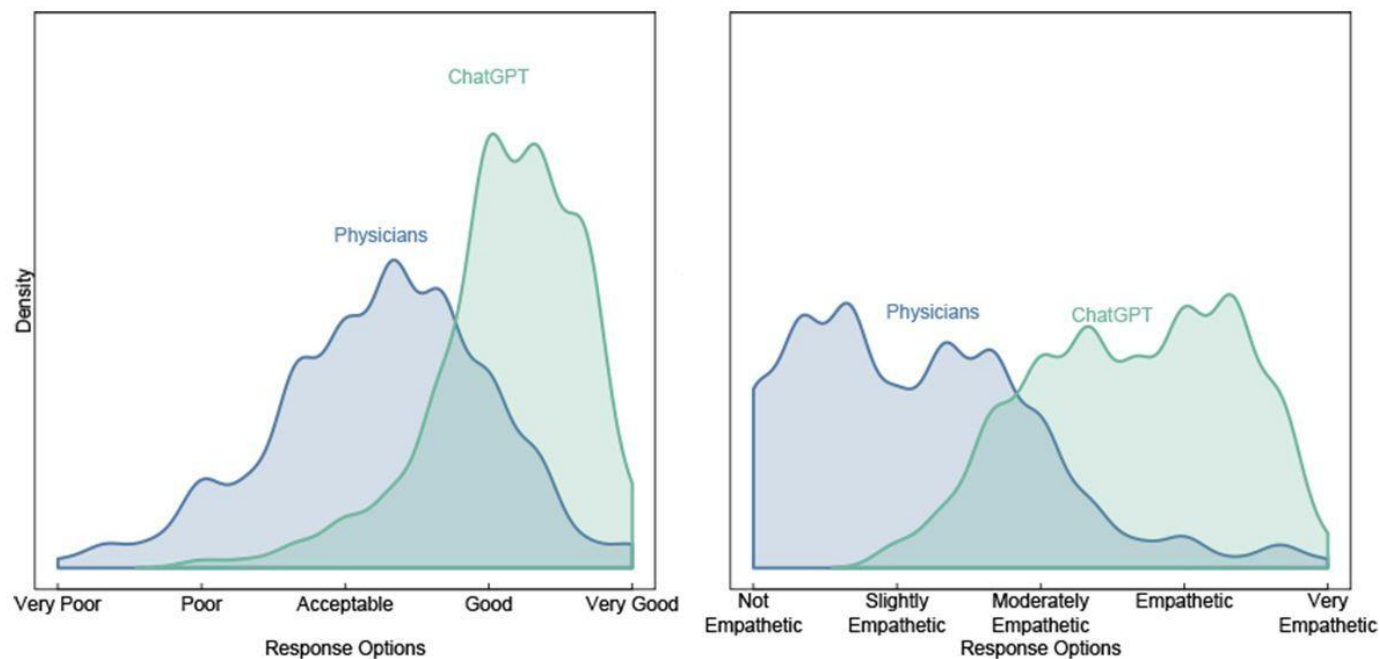
Medical History: None.
Social History: Occasional alcohol, non-smoker.
Medications: None.

Evidence of ChatGPT for Building Clinical Reasoning Skills

1. Highly accurate with clinical decision-making (even scoring higher than medical students on USMLE)

2. Responds better than humans to patient questions

3. Improves over time

Source: JAMA **Comparing Physician and Artificial Intelligence Chatbot Responses to Patient Questions Posted to a Public Social Media Forum**

Benefits of Using ChatGPT in EMS Education

- Realistic role-playing

- Low-stakes interactions

- Minimal training needed

- Personal teaching assistant

- Individualized feedback at scale

Clinical Reasoning Tools
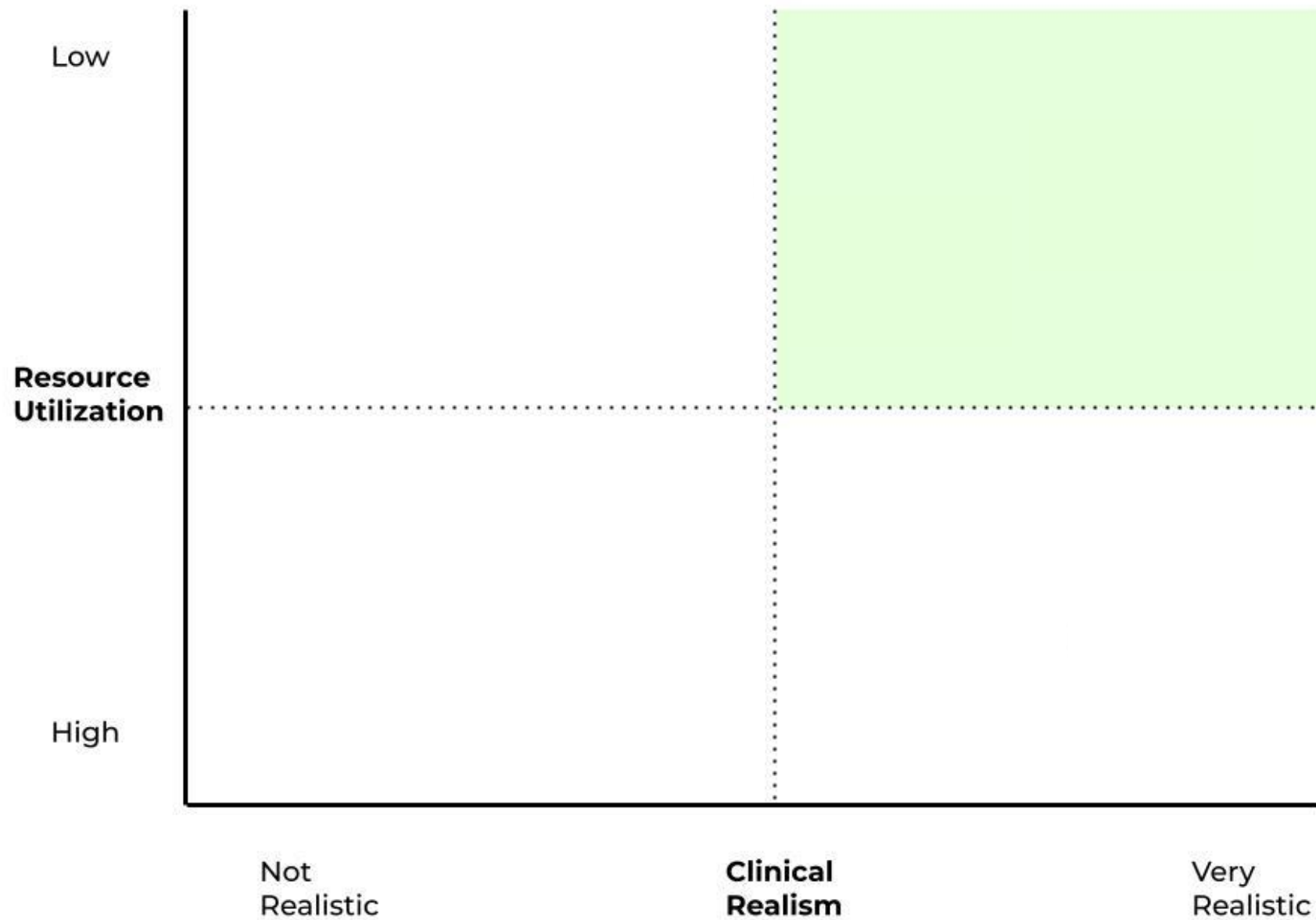
Overcoming AI Challenges with InSitu

Challenge:

Accuracy of medical information

Reproduction of biases

Hallucination

Inconsistency

Privacy concerns

Solutions:

Explicit instructions for sources
Ground in peer-reviewed cases

Choose diverse patient cases,
audit feedback for bias

Test, test, test (human oversight)
Quality control

Fine-tune algorithms
Build student understanding of AI
strengths and weaknesses
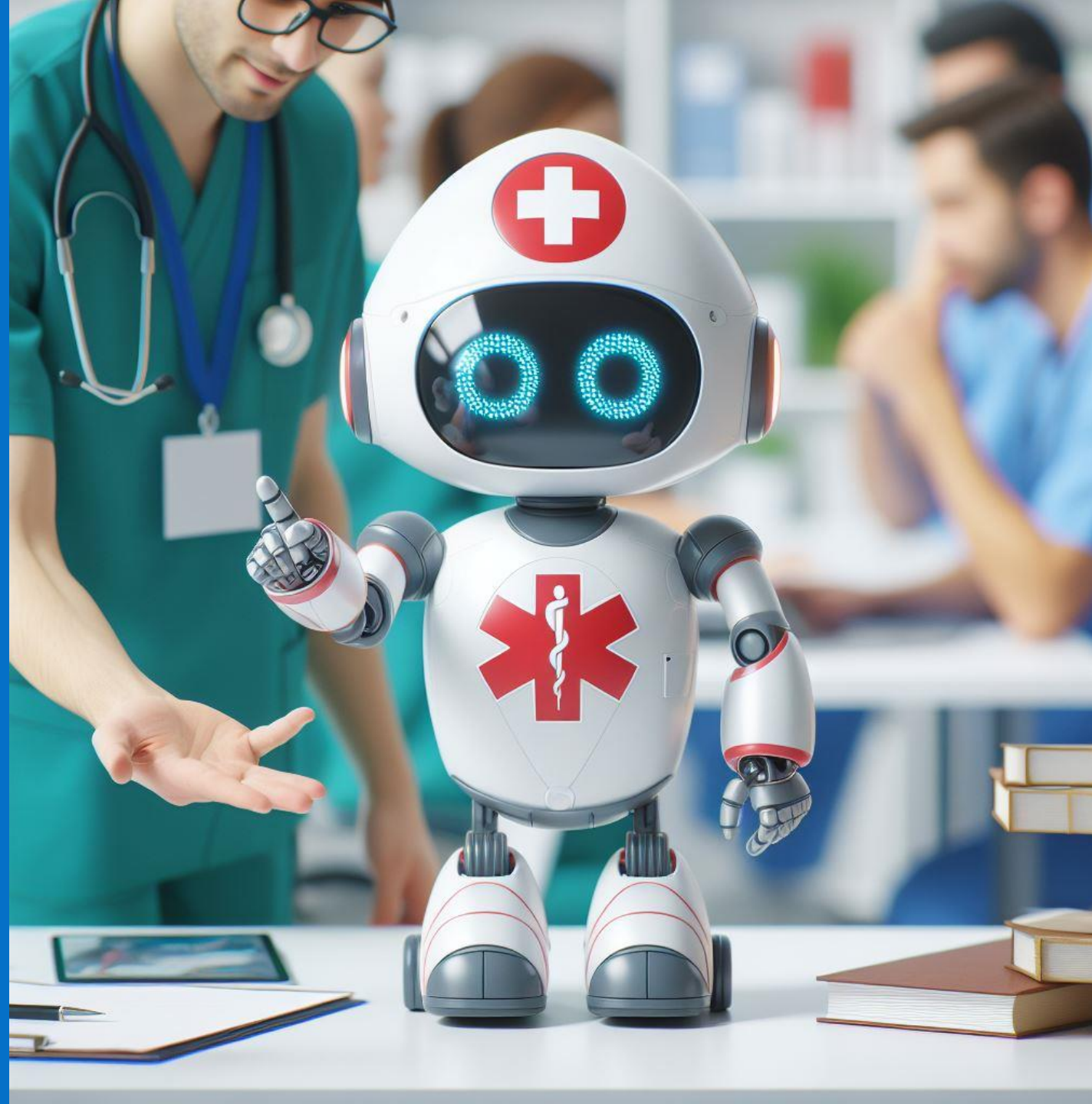
Only use HIPAA-compliant cases

Considerations for an AI-integrated curriculum:

- Align with Learning Objectives – pair cases with units and rotations
- Faculty Training
- Feedback Mechanisms
- Assessment Integration
- Tech Support
- Continuous Evaluation and Improvement

Consider joining the InSitu Beta program

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