Beat the Machine — Can You Triage Better than AI?

AI in Healthcare: Triage Through 7 Cases and When It Fails

Target Audience

High school students, undergraduate non-CS majors, educators, healthcare professionals without AI training, and members of the general public curious about AI in healthcare.

Format & Expected Duration

- **Format:** Interactive web-based scenario game (Gradio)
- **Play Time:** 5–10 minutes for a full run-through of all cases
- **Supplementary Material:** One-page visual summary PDF + screenshots for offline access

Description

This resource is an **interactive, scenario-based game** where learners step into the role of a triage decision-maker. They review **seven short patient cases** with vital signs (heart rate, oxygen saturation, breathing rate, temperature) and decide urgency using a traffic-light system:

- **Severe (Red)** — needs urgent attention
- **Intermediate (Orange)** — monitor closely
- **Mild (Green)** — likely safe to wait

For each case, the learner compares their decision to both the ground truth and an AI system's prediction, discovering when the AI gets it wrong and why. Each case introduces one key AI concept — from supervised learning to bias and out-of-distribution data — in plain language and reinforced with clear visualisations. The game invites participants to experiment with "what-if" adjustments, building intuition about how models make decisions and when to be cautious.

Learning Goals

- Understand how AI systems learn from labelled examples and apply decision rules.
- Recognise limitations and failure modes of AI in real-world healthcare (bias, uncertainty, lack of coverage).
- Interpret and experiment with decision boundaries and confidence in model predictions.
- Develop a balanced view of AI's role in supporting — not replacing — human expertise.

Why This Fits the Showcase

- **Balanced perspective:** Celebrates AI's potential while showing its limitations, reflecting NeurIPS' emphasis on responsible AI education.
- **Engaging:** Gamified format with badges, score tracking, and playful narrative.
- **Non-expert accessibility:** No coding or prior AI knowledge required; short play time and interactive learning make it approachable for anyone.
- **Real-world relevance:** Based on authentic healthcare triage scenarios, connecting AI principles to a context the public understands and cares about.
- **Visual & Interactive:** Decision boundaries, vital sign sliders, and confidence bars bring abstract concepts to life.
- **Reusable:** Can be used in classrooms, outreach events, or public exhibitions.

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