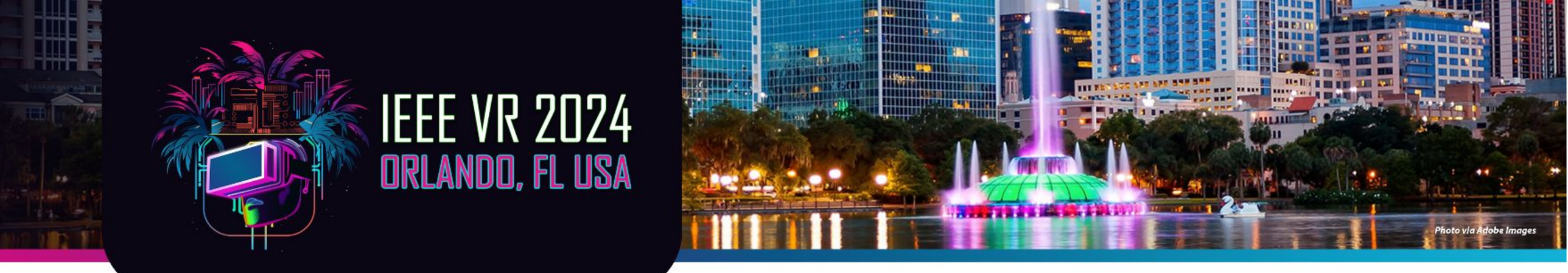

Designing Indicators to Show a Robot's Physical Vision Capability

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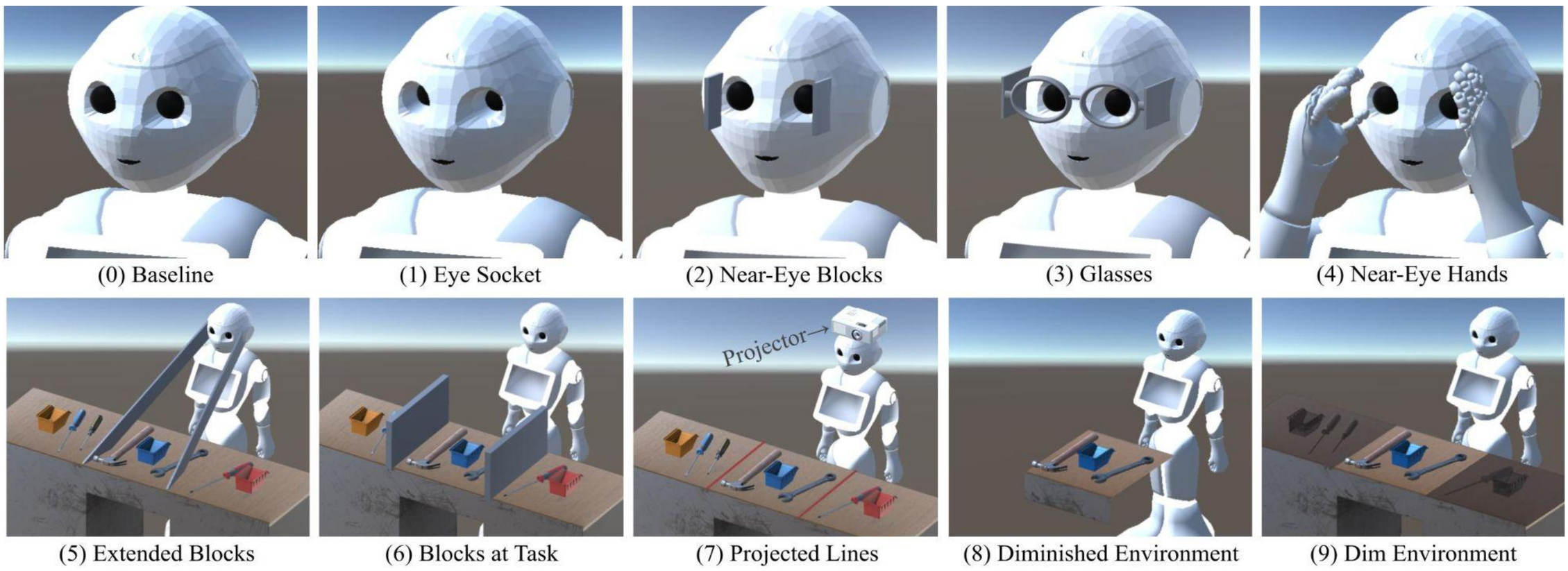
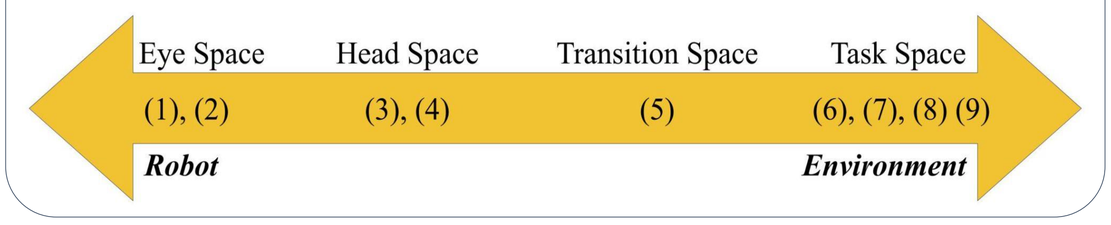


Do you know robots have much narrower views than humans?

- Study shows that we can mistake a robot's field of view (~60°) the same as ours (>180°), forming an inaccurate mental model.
- This is problematic! We will ask robots to do impossible tasks about out-of-view objects!
  - It is crucial to align our mental models of robots.
- We thus designed **9 situated augmented reality (AR) indicators** to reveal its real vision capability.
  - Why AR? The robot's hardware is hard to modify. It allows fast prototyping to explore design space.

- Beside these indicators, we proposed a **design taxonomy and spectrum** to group our designs.
- The spectrum shows a continuum from the robot space to the environment space in the physical world.



Takeaways & Next Steps

- We designed 9 indicators to show a robot's vision capability, aligning our wrong mental models.
- We plan to register them onto the robot and conduct user studies to narrow down as well as evaluate our designs (e.g., accuracy, efficiency).

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