

16-867 Human-Robot Interaction

Project Tips

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Logistics

Upcoming

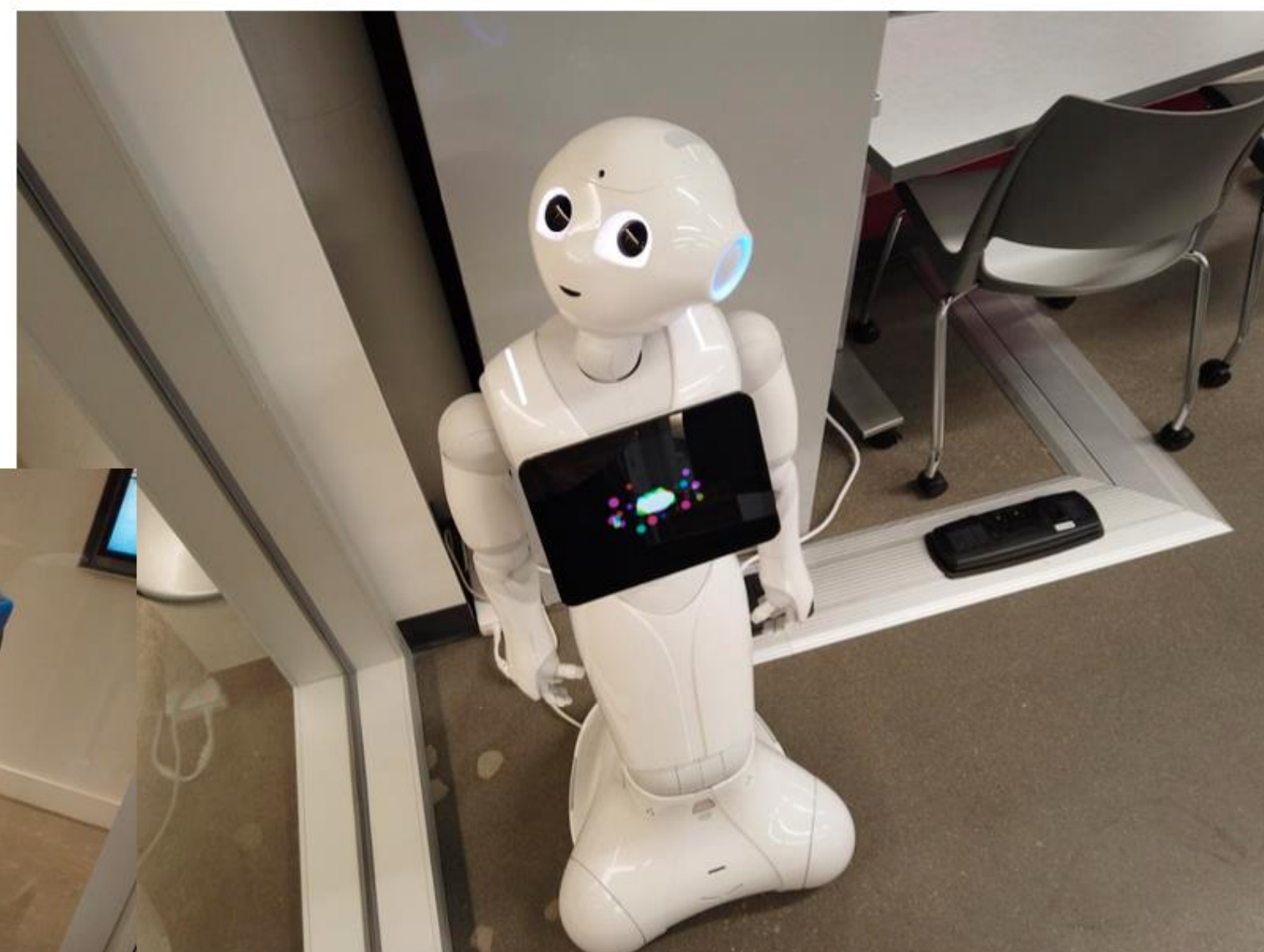
- Tues, Sept 24: Project Proposal (1 page, 0% grade).
See syllabus for more information + guidance
- Tue, Oct 8: HW 1 is due

AI Maker Space (*in Tepper*)



<http://www.cs.cmu.edu/~aims/>

AI Maker Space (*in Tepper*)

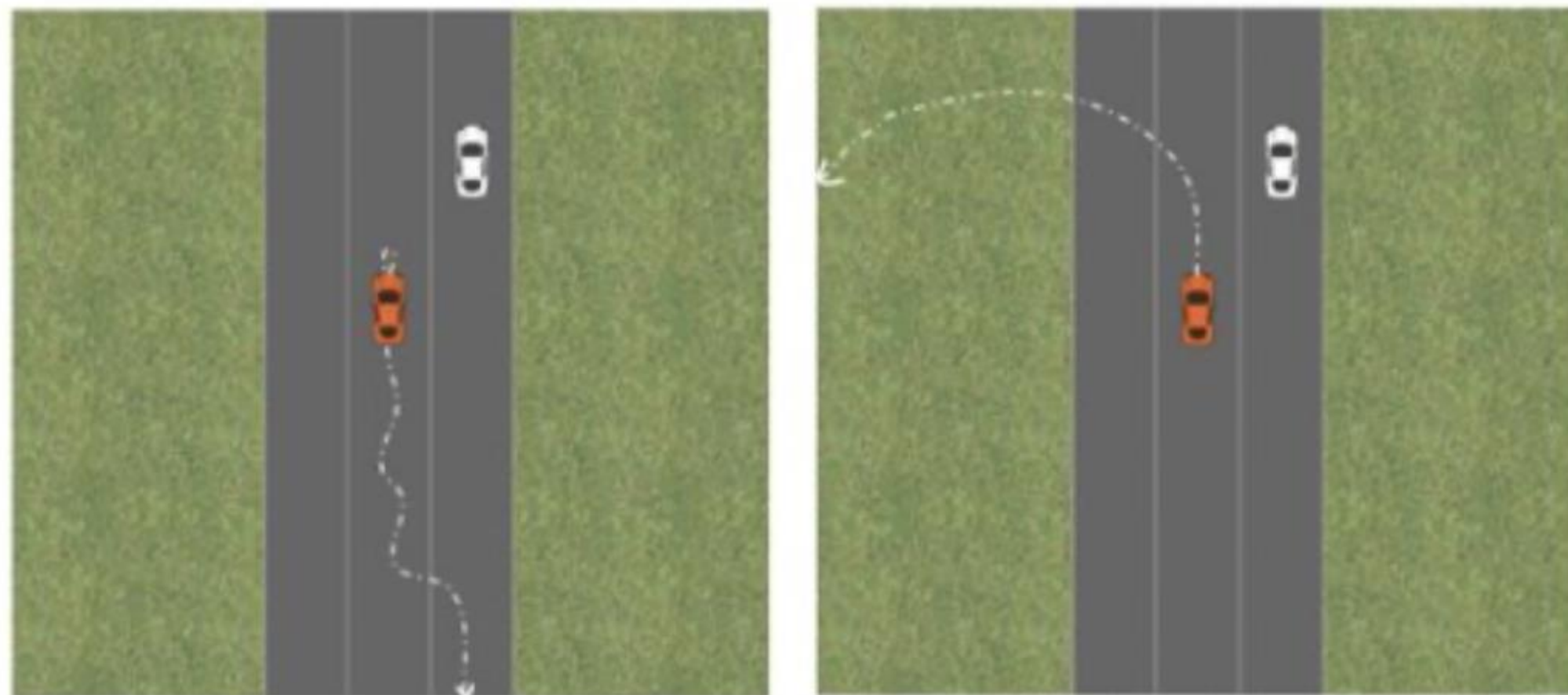


Example (2019)

Guided Preference-Based Active Reward Learning

Pallavi Koppol

Does guiding human feedback to focus on a particular feature improve the robot's ability to use that information for active learning?



Please select which one is better in terms of heading

OR

Which feature contributed the most to your decision?

Making Sense of Responses

$$P(w') \propto P(w) P(q_n | w, Q_n) P(f_i | w, Q_n)$$

Updated probability of the weights

Previous probability of the weights

Probability of choosing a particular feature, given the previous weights and the choices presented

Proportional to

Probability of choosing a particular trajectory out of the available options, given the previous weights and the choices presented

Example (2022)

“There’s no room for me”: How People with Disabilities Perceive Sidewalk Robots

Alana Levene, Howard Han, Aparna Maya Warriier

How do people with mobility and visual impairments feel about sidewalk delivery robots?



User Study I Independent Variables

Scenarios



Curb Cut



Crowded Sidewalk



Empty Sidewalk



Snowy Road



User Study II Video prototyping



Normal Size + Speed



Large Size + Fast Speed

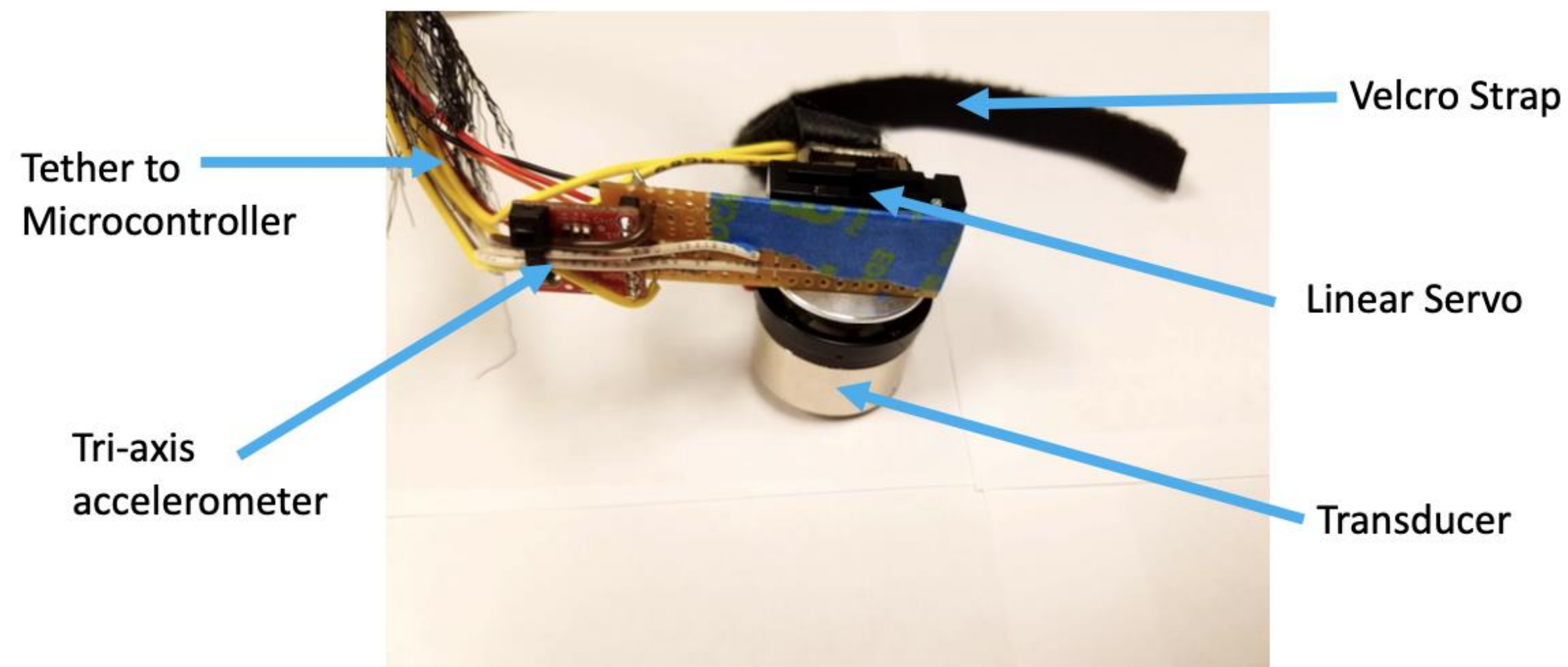
Example (2018)

Development of a Multi-modal Haptic Rendering Device

Nick Crispie

Can a haptic device that conveys multiple modalities improve touch-based object identification?

Design of Wearable— Final Version



Evaluation Experiment Design

- Users were asked to run haptic device horizontally across table as if running finger along surface of object
- Within-subject test
 - Tested 3 modes of operation
 - Modes pseudo-randomly ordered
- Tested 4 different materials
- Pilot study to check methodology prior to test

