The background is a collage of images related to human-robot interaction. It includes a person wearing a sensor vest, a robotic arm with a yellow glove, a person working with a robotic arm, and a person interacting with a robotic arm. The text is overlaid on this collage.

# Algorithmic Human-Robot Interaction

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## Goal Interpretation and Expression System Design Workshop Part III

CSCI 7000

Prof. Brad Hayes

University of Colorado Boulder



HUMAN ROBOT COLLABORATION

A nighttime photograph of a city skyline, likely Daegu, Korea, with numerous illuminated buildings and colorful lights reflecting on the water in the foreground. The scene is vibrant with various colors of light, including red, blue, green, and yellow.

Use this time to begin your project writeup:  
Introduction and Motivation Sections

No Class Next Week

Classes cancelled  
3/12 and 3/14  
due to the  
HRI Conference

# Format for a Research Paper

## Abstract

- One paragraph summary of the work, insight, and main result.

## Introduction

- Motivate your problem, state why is this hard, state what a solution gives us, end with short bulleted list of main contributions (usually 1-3 bullets, 1 sentence each)

## Background and Related Work

- What have other people done in this space? 1-2 sentence summaries of a handful of related papers tackling similar problems. Identify technical gap: what's missing?

## Main Contribution

- Describe your algorithm and key insights into solving the problem

## Evaluation

- How do you know if your solution works? How is it better than existing approaches?

## Conclusion and Future Work

- Summarize your paper in a paragraph, identify some next steps / problems you didn't solve.

# Quiz

(10 Minutes)

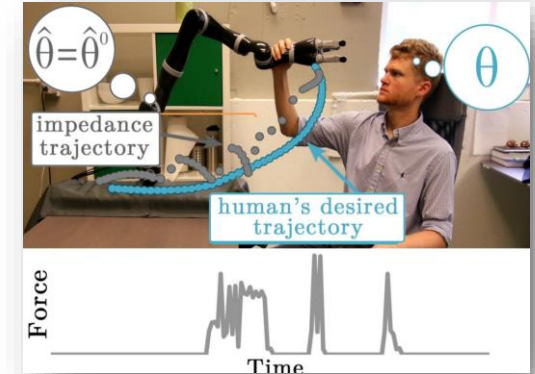
# Papers for Today:

## Interpreting and Expressing Goals

Learning Robot Objectives from Physical Human Interaction  
– Bajcsy et al.

Pro: Lakhan Kamireddy

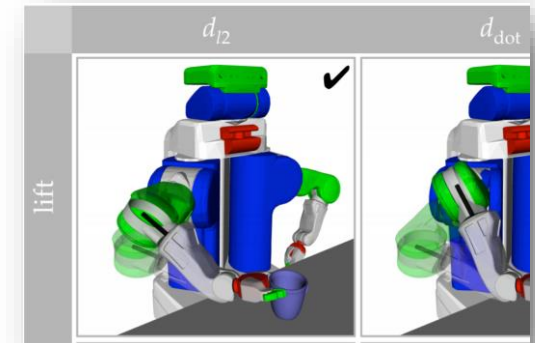
Con: Chandan Naik



Expressing Robot Incapability  
– Kwon et al.

Pro: Dhanendra Soni

Con: Shohei Wakayama





# System Design Workshop (Part III)

Finish defining the major components of your project

If already done, begin designing your evaluation!

**Deliverable:** Block diagram with details for each component  
(Powerpoint slide deck is generally the easiest format)

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Submit on Moodle by Friday