



# Introduction to ROBT 414: Human-Robot Interaction

Assistant Professor: Dr. Anara Sandygulova

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Fall 2018

# What this course is about:

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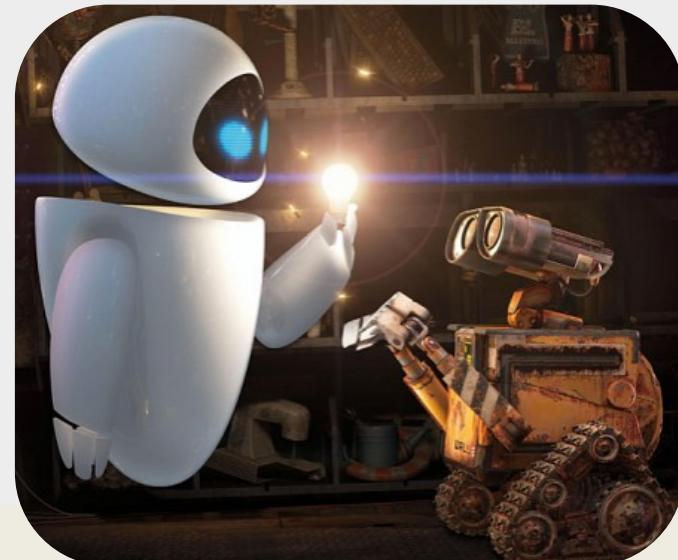


Interdisciplinary nature of HRI field:  
breadth over depth



Understanding, designing and evaluating  
robotic systems used by or with humans.

## To spark a light:



# What you will learn:

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## State of the art in HRI

so that students are able to demonstrate knowledge related to HRI research and applications.



## Design and implementation of a complete HRI system

Students will be able to iteratively develop their project ideas into complete HRI systems by working in teams over the whole semester.



## To perform evaluation with end-users

Students will learn how to design and conduct HRI experiments, analyze and interpret data.

# Course materials

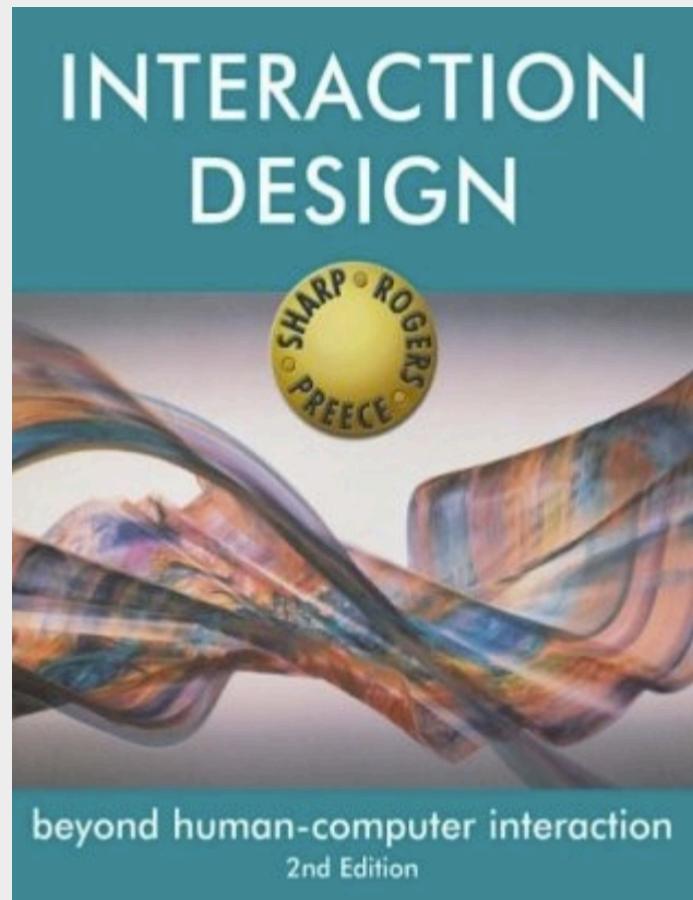
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Interaction Design:  
Beyond Human-Computer Interaction

by Rogers, Sharp, & Preese  
(2011) Wiley.  
ISBN 0470665769

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Other readings will be posted on Moodle

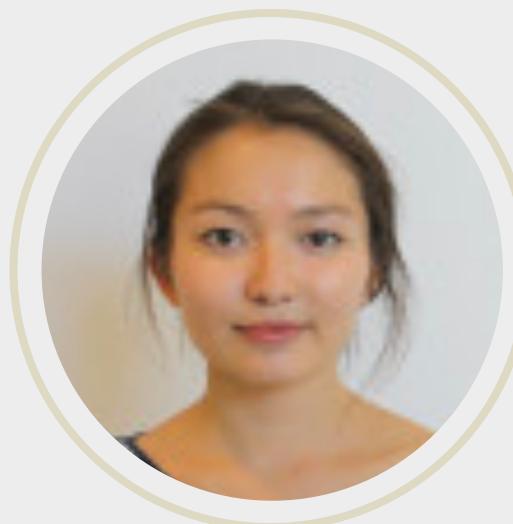


# Our responsibilities:

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# Your responsibilities:

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## No plagiarism

All parties caught cheating/copying/plagiarising will be awarded 0%



## Avoid late submissions

1 day late submission – 10% deduction

2 days late submission – 20% deduction

No acceptance after the 2nd day



## Attendance is recorded and might affect grades

Being late is not acceptable and is recorded as 1 point

Participation will be taken into consideration

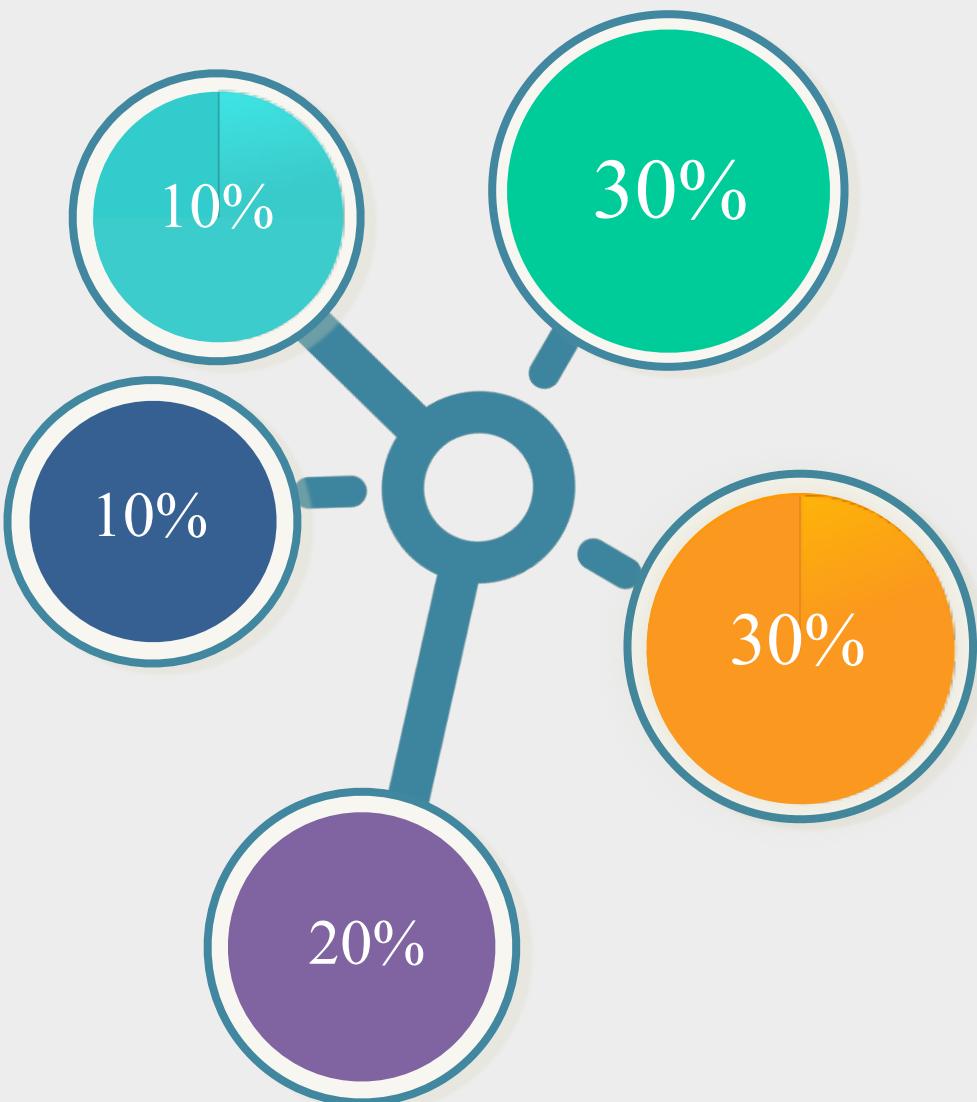


## No ringtones

Lab computers should not be used unless it is stated otherwise

# Evaluation:

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Your course grade:

- 10%: Attendance and active participation
- 30%: Midterm
- 20%: Individual programming assignments (2)
- 10%: Research Presentations
- 30%: Group project

# Group Semester-long Project is worth 30%

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- **Output 1: Online Documentation**

An online **Project documentation** from your team with your team member names, project name, problem statement and proposed milestones.

- **Output 2: Research presentation – 10%**

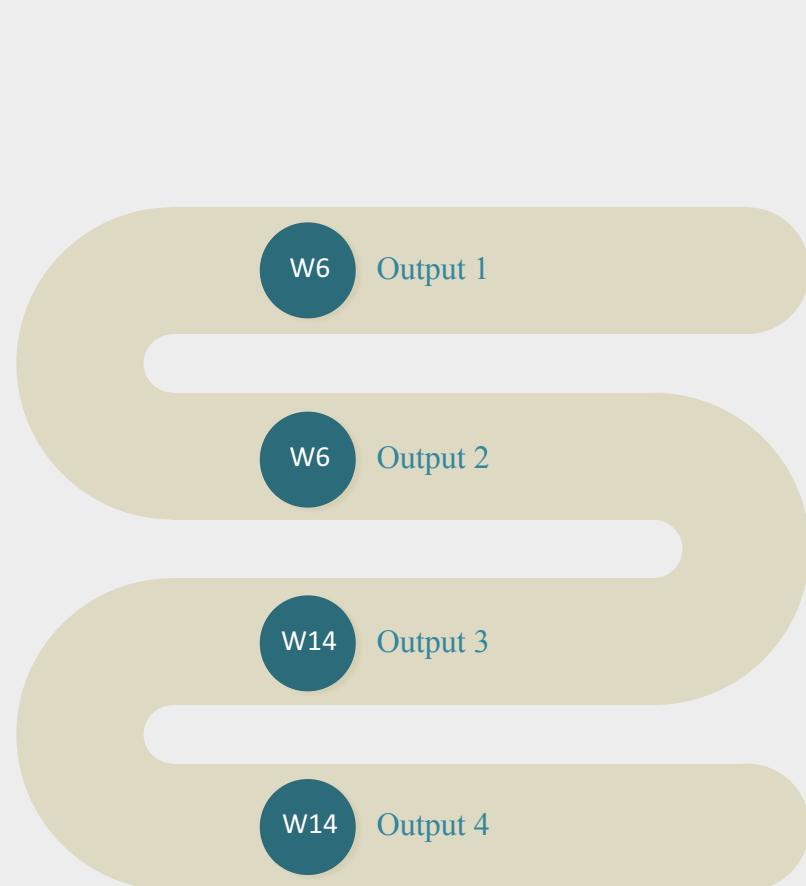
**Research Presentation** from your team on an agreed-upon topic relevant to your project direction. You will read at least two-three published papers on the subject, then present a summary and critical analysis of the work in this area in class.

- **Output 3: Final Presentation**

The **final presentation** will include a demonstration of the working prototype of the HRI system (or video), your experiment's results and findings.

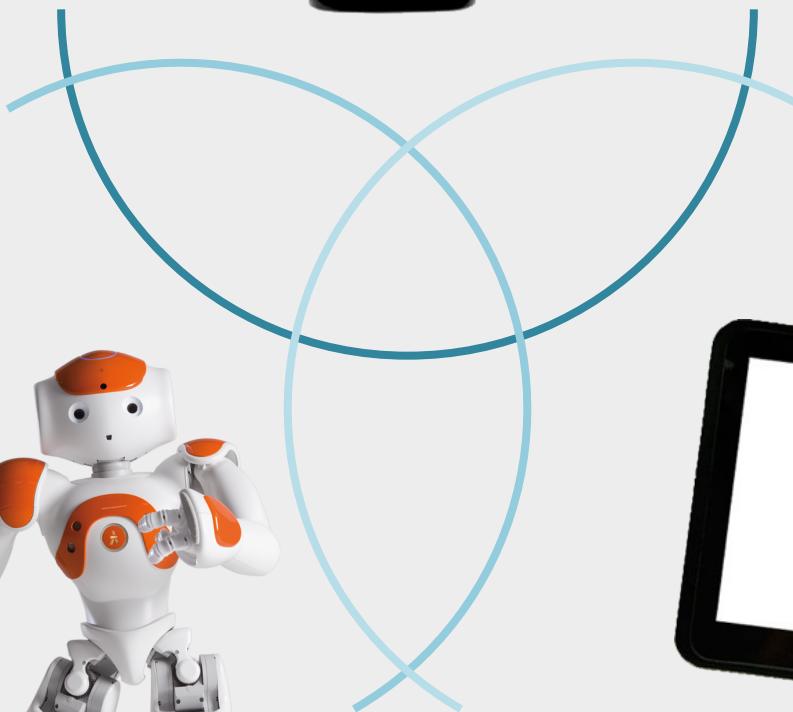
- **Output 4: Project Report**

The **Project Report** needs to be as a 2-page article (including references and figures), in ACM Proceedings double-column format. Word and LaTeX templates can be found here: <http://www.acm.org/publications/proceedings-template> – please use the sample-**sigconf.tex** or **ACM\_SigConf.docx** files.



# Technologies for your choice:

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# JIBO, The World's First Social Robot for the Home



Boston, Massachusetts, United States



Technology

Story

Updates 21 | Comments 563 | Funders 7,418 | Gallery 16

25k

Share

2,314

Tweet

486

g+1

Email

Embed

Link

Follow



**Cynthia Breazeal**  
Identity Verified  
Email Verified



**Technology**  
Boston, Massachusetts  
United States  
10 Team Members

[Contact](#) • [See More Details](#)

**UPDATE:** Your interest and outreach has continued to amaze us, so we are going to offer the opportunity to once again pre-order JIBO.

**Pre-Order your JIBO now for \$749**, inclusive of battery and charging plate, with the SDK available for developers. Orders will begin to be fulfilled starting in the April/May 2016 time frame. Our first delivered JIBO

## InDemand

**\$3,711,159 USD**

total funds raised

Original campaign was 2,288% funded on September 14, 2014

**CLOSED**  
on June 22, 2015

## IN PARTNERSHIP WITH



RainFactory Inc.

## SELECT A PERK

**\$749 USD**

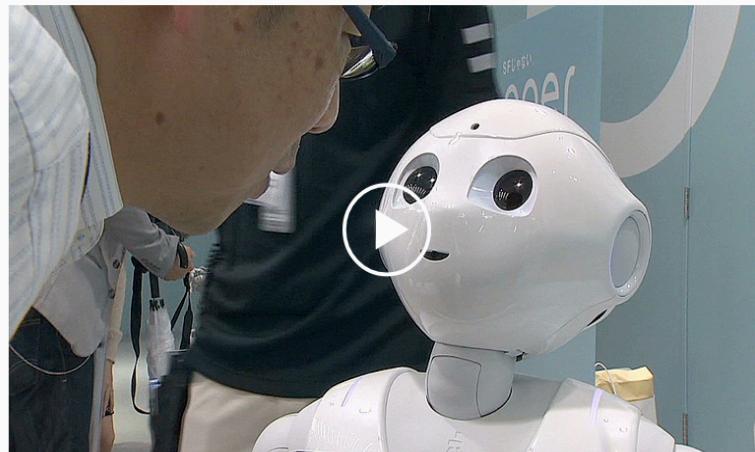
### JIBO Home Edition - White

Get 1 JIBO Home Edition Robot in White. Includes 1 battery and 1 charging plate. Free shipping to the US and Canada. International shipping is \$50 USD and will automatically be added to your bill.

# 'Emotional' robot sells out in a minute

By Angad Singh, for CNN

🕒 Updated 1030 GMT (1730 HKT) June 23, 2015



Can this robot read your emotions? 01:44

## Story highlights

Pepper, a humanoid robot, designed to be emotionally developed

Robot released to consumers on Saturday and sold out within a minute

It's base price is \$1,600, with \$200 monthly data and insurance fees

**(CNN)**—Pepper the humanoid robot is so hot that he sold out within a minute, according to his Japanese creator, SoftBank Robotics Corp.

Only 1,000 models were available for the consumer launch on Saturday in Japan. The base price was set at ¥198,000 (\$1,600) with an additional ¥24,600 (\$200) monthly data and insurance fees.

## The world's first emotional robot



Standing just under four feet tall, and weighing 61 pounds, Pepper is designed to read emotions as well as recognize tones of voice and facial expressions in order to interact with humans. But most of all, "he tries to make



 **EMERSON**

Advertisement

## CNN Recommends



Former WWII pilot laments Japan's past



Reliving torture horror through cartoons



Lost vintage photos spark treasure hunt



Father and son: 3 decades in 30 clicks

# What you will learn this term:

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Robot Perception  
(Assignment 1)



Social Robotics  
(Assignment 2)



Imitation Learning  
Robots for Education



HRI

Human-Robot Collaboration



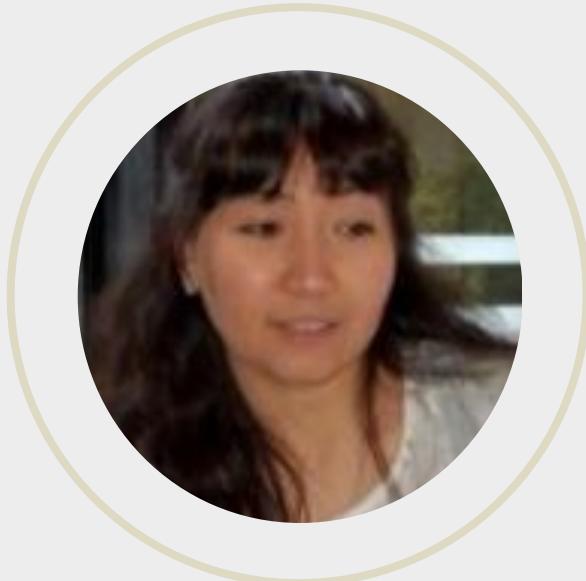
Social Navigation  
Situation Awareness  
Mixed Reality



Cognition and HRI  
Multi-agent Systems

# Contact Info

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70-65-46

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## Any Questions?