

Ethical Considerations of Employing Social Robots in the Wild: Towards an Approach from a Global perspective

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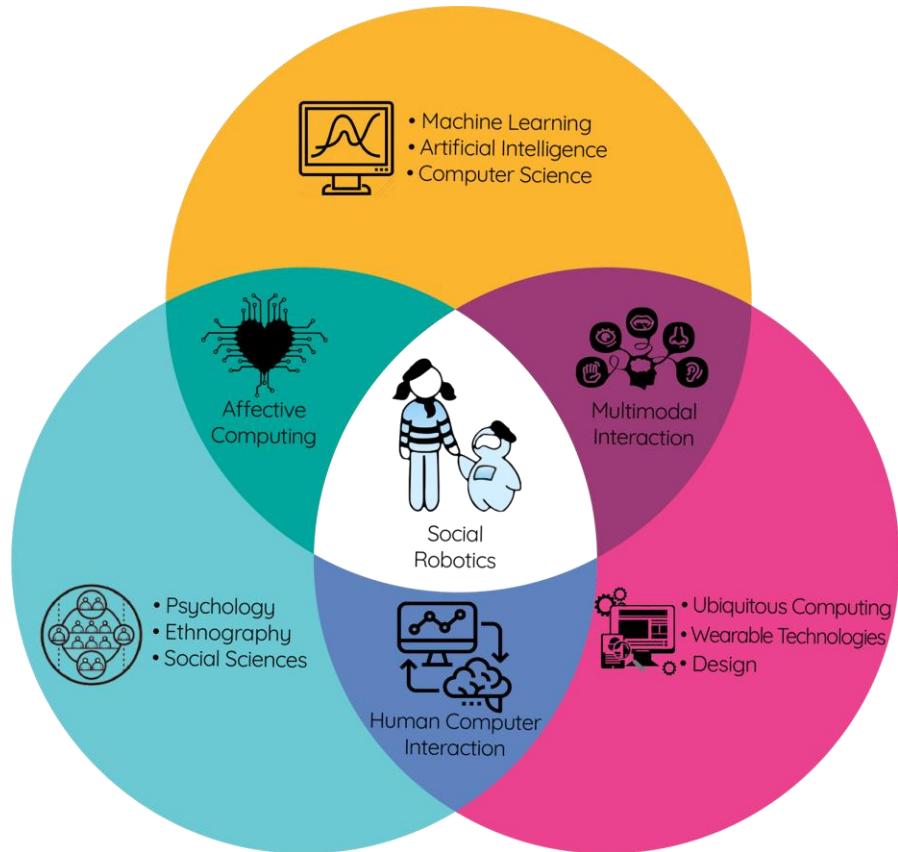
Human-Centered Design



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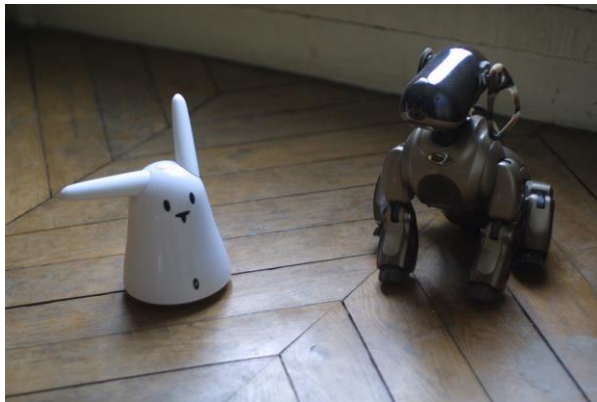


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Human Robot Interaction (HRI)

- Human–Robot Interaction (HRI) is a field of study dedicated to understanding, designing, and evaluating robotic systems for use by or with humans
- To understand and shape the interactions between one or more humans and one or more robots
- *Social Robots: Operate via social interaction*

Examples



Child Human-Robot Interaction



Photo: IEEE Spectrum/ASK NAO

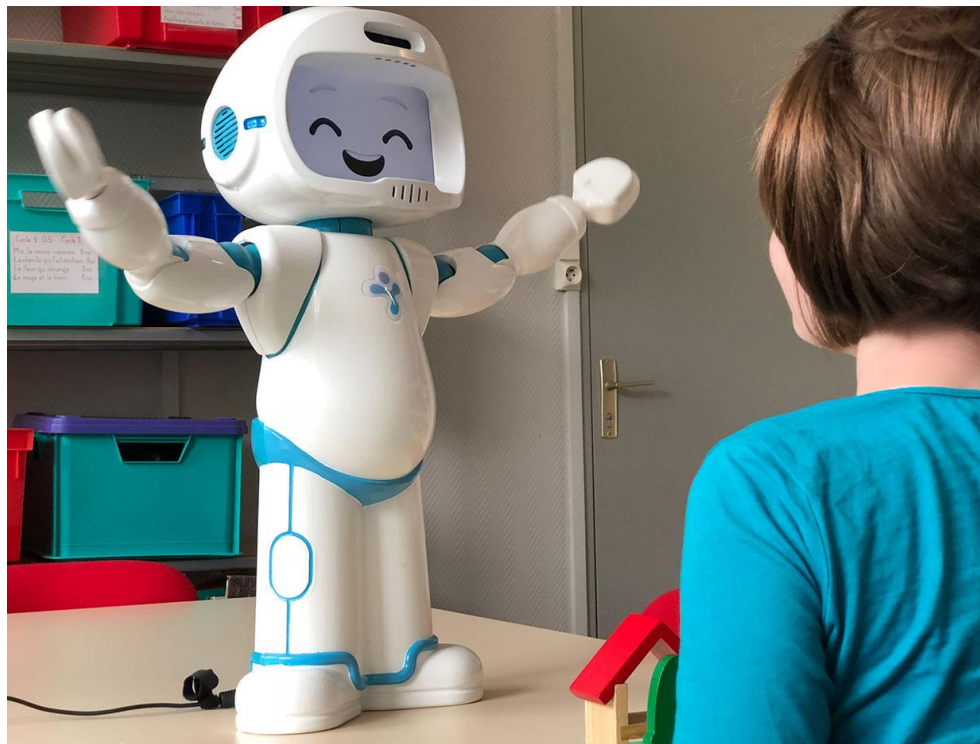


Photo: LuxAI



Ethics in Robotics: Three Laws

- A robot may not injure a human being or, through inaction, allow a human being to come to harm.
- A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.
- A robot must protect its own existence as long as such protection does not conflict with the First or Second Laws.

(Isaac Asimov, I, Robot, 1950)

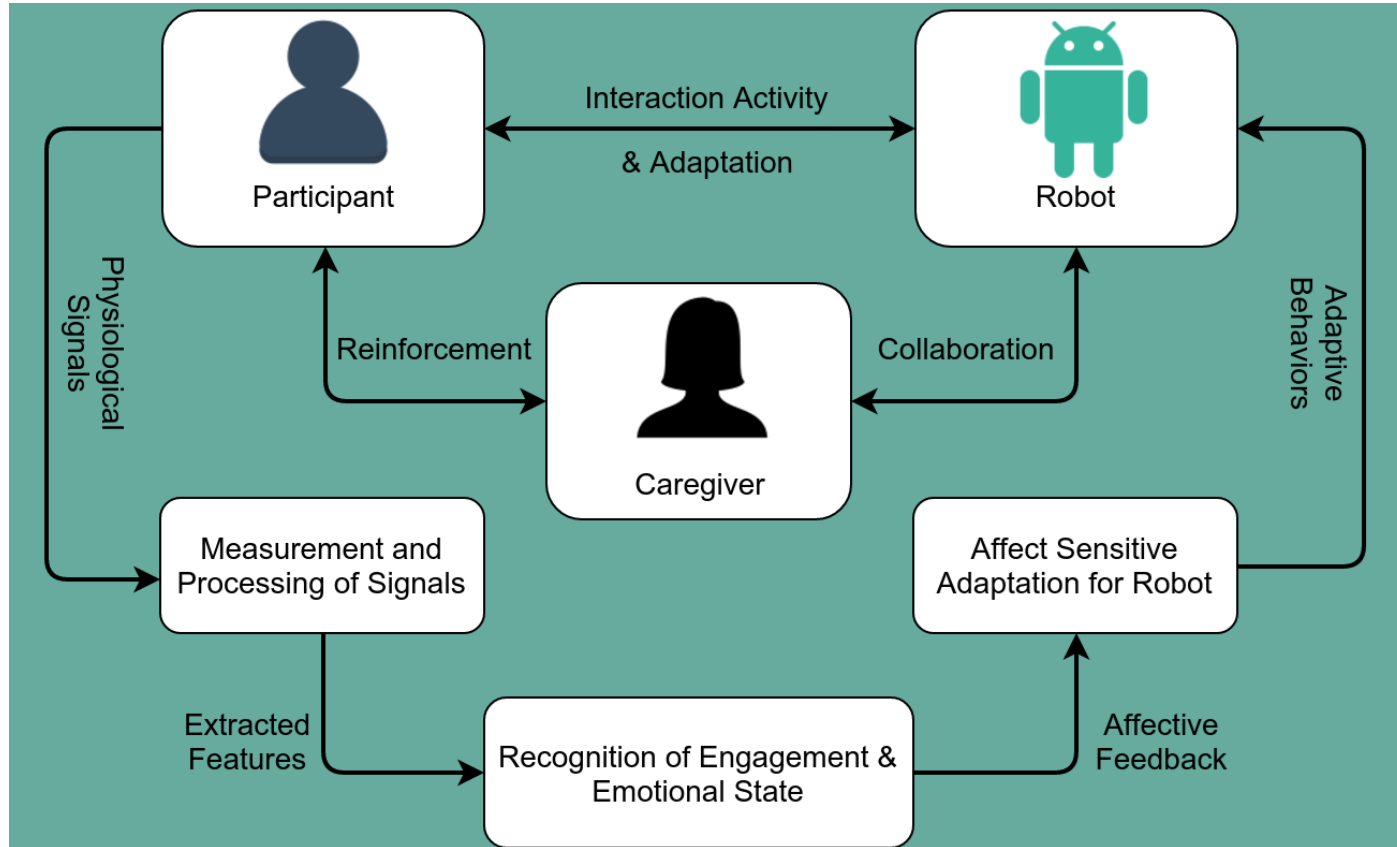
Ethical Implications



- Ethical, legal and social implications of the robots interacting at a physical level.
 - Safety requirements on several design factors such as robot shape, robot motion, incorrect autonomous decisions etc. (ISO/TC 2014)
- HRI of the proposed system works not only at the physical level but also at the cognitive level.

Shukla et. al, 2017, Emotional State Recognition for Personalized Robot Behavior Adaptation: Ethical Implications, Proceedings of the Workshop in HRI, 2017)

Case Study I: Spain



Case Study II: India



Ethical Issues: Research Ethics

- Rights and confidentiality of research participants
- Informed consent to research
- Recording
- Data retention and sharing/dissemination



Ethical Issues



- Safety and Trust
 - Autonomy of the robot
 - Robot malfunction
- Anthropomorphisation & its impacts
 - Name Ascription
 - Jordi
 - Raju
 - Patients/Students start mimicking the robot.
 - Replacement



Ethical Issues



- Language: pronunciation, accent, difficulty in full participation due to inhibitions & confusion
- **Student 1:** *Raju, what is this?* (Showing alphabet flash card 'T' to student)
- **Cozmo:** 'T'
- **Student 2:** *What did he say?*
- **Student 1:** 'P'?
- **Student 1:** *Raju, this is 'T' not 'P'*
- **Cozmo:** 'T'
- {*Both student got confused and look at moderator for confirmation*}

Ethical Issues: Attachment

- Emotions and Attachment


- Packbot

[<https://www.theatlantic.com/technology/archive/2013/09/funerals-for-fallen-robots/279861/>]

“When Boomer was lost on the battlefield in Taji, Iraq, his brothers in arms gave him a funeral. The tribute involved a 21-gun salute, and the awarding of both a Purple Heart and a Bronze Star Medal. All in recognition, according to a soldier who has worked with Boomer's comrades, of Boomer's heroism and of the many lives he had saved on the battlefield.”

Conclusion



- Ethical issues arise with social robotics in different settings on a more global level.
 - The impact of the HRI needs to be addressed from a macro-perspective beyond the effects on the individual.
 - Focus on global south is limited.
 - Decolonizing learning spaces & tech adaptations.
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References



1. ISO/TC, 184 (2014). ISO 13482:2014: Robots and robotic devices: Safety requirements for personal care robots. Tech. rep. International Organization for Standardization.
2. [American Psychological Association's \(APA\) Ethical Principles of Psychologists and Code of Conduct](#)
3. [Special Eurobarometer 382 'Public Attitudes Towards Robots' Report September 2012.](#)
4. [A Survey of Expectations About the Role of Robots in Robot-Assisted Therapy for Children with ASD: Ethical Acceptability, Trust, Sociability, Appearance, and Attachment](#)
5. [National Data Sharing and Accessibility Policy](#)
6. <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/human-robot-interaction>

