

An illustration of a young girl with long brown hair and bangs, wearing a pink sweater and blue pants, standing next to a small white robot. The robot has a round head with blue eyes and a single arm. They are in a room with a pink wall and a window. The title is in a white speech bubble in the top right.

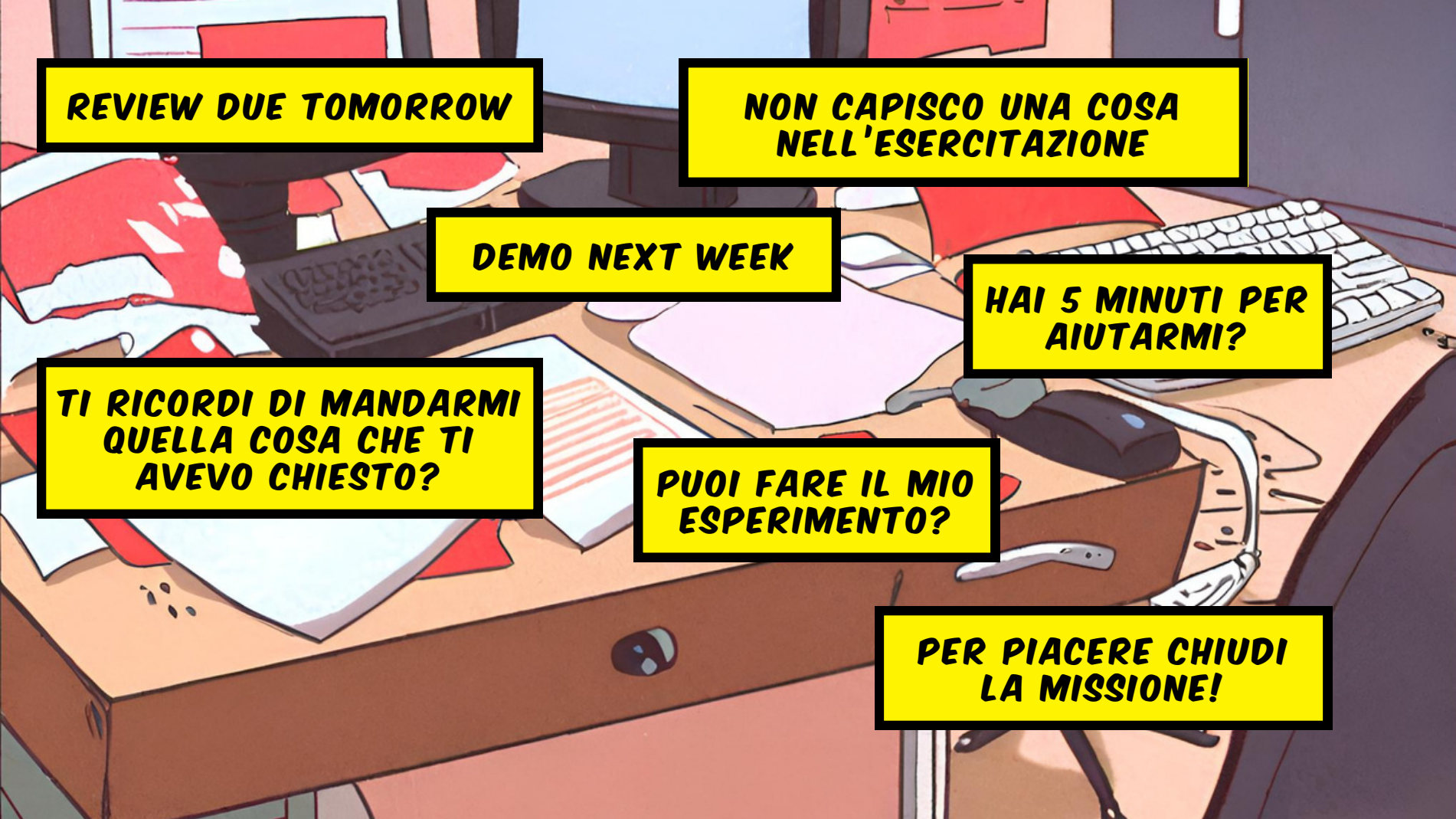
***SOPRAVVIVERE AI
ROBOT E A IANUA:
UNA BREVE GUIDA***

GIULIA PUSCEDDU

UNA MATTINA AGLI ERZELLI...

**UN ALTRO GIORNO DA
DOTTORANDA.
OGGI ANDRÒ AVANTI
CON LA MIA RICERCA!**

iit RBCS **iit** CONTACT
ISTITUTO ITALIANO
DI TECNOLOGIA



QUALCHE ORA DOPO...

HO FINITO!

**"EXPLORING GROUP DYNAMICS AND
ADAPTIVE ROBOT BEHAVIOR IN
HUMAN-ROBOT INTERACTION"**

**NOI UMANI SIAMO
SEMPRE CIRCONDATI
DA ALTRE PERSONE**

**PER INSERIRE I ROBOT
NELLA NOSTRA SOCIETÀ...**

**... DEVONO ESSERE IN
GRADO DI GESTIRE PIU' DI
UNA PERSONA ALLA VOLTA**

STUDIARE GLI ESSERI UMANI USANDO I ROBOT

iCub we forgive you!



Fig. 3. A researcher - on the right behind the robot - explaining the rules to the participants.



THE IMITATION GAME

Abstract—Given that a significant portion of our daily lives revolves around group interactions, the integration of social robots into everyday existence requires understanding the dynamics that emerge when social robots are introduced into human groups, with the ultimate goal of equipping them with the ability to behave within such group settings effectively and naturally. In this work, we explore the influence among the members of child-robot mixed groups during a motor task. To achieve this, we propose a gamified task in which children and the NAO robot mimic simple gestures. The robot is programmed to perform the actions in both a “typical” and “atypical” manner. We observe the execution of the actions of the participants before and after they have witnessed the robot’s version of the moves. Preliminary results show that participants imitate the robot less than they self-report. Additionally, it is observed that the group members tend to focus their gaze on the human individual who initiates the action.

I. INTRODUCTION

Integrating social robots into daily life is one of the ultimate goals for the Human Robot Interaction (HRI) field, with research focusing, for instance, on robots as caregivers [1] or teachers [2]. In pursuing this goal, researchers cannot disregard the need to endow social robots with the ability to interact with groups of people. Recognizing groups’ most relevant features and studying group dynamics - i.e., the influential interpersonal processes that occur in and between groups over time [3] - would provide insights into how to train robots to become part of groups of humans and deal with their members efficiently and naturally.

Most of the knowledge in HRI regards dyadic interactions. However, in the last 15 years, non dyadic HRI publications have increased [4]. One area of HRI that generates significant interest and could benefit from non dyadic research is education [2]. As suggested by a HRI participatory design study in a summer camp [5], comprehending the psychological and behavioral dynamics of student-robot mixed groups would

Training School Teachers to Use Robots as an Educational Tool: the Impact on Robotics Perception

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Abstract. This study investigates whether an educational robotics training program for kindergarten, primary, and secondary teachers causes them to change their impressions of a robotic platform. Questionnaires submitted before and after a 3-month training program were used to assess the opinions of 40 teachers. The training program aided in bringing teachers’ expectations closer to the actual potential of the robot. The course seems to level participants’ impressions: differences between STEM and literary teachers before the program are no longer detected after it. Although those with a wider technological background have more willingness to use the robot, all the teachers, in the end, perceived the robotic platform as appreciated and beneficial for the education of students. Our findings highlight the crucial benefit of a training program in robotics for teachers: it not only provides the knowledge to use a robotic platform but also helps form a more informed vision of the possibilities afforded by robotics platforms for education.

Game Theory to Study Cooperation in Human-Robot Mixed Groups: Exploring the Potential of the Public Good Game

Giulia Pusceddu^{1,3}, Sara Mongile^{2,3}, Francesco Rea², and Alessandra Sciutti²

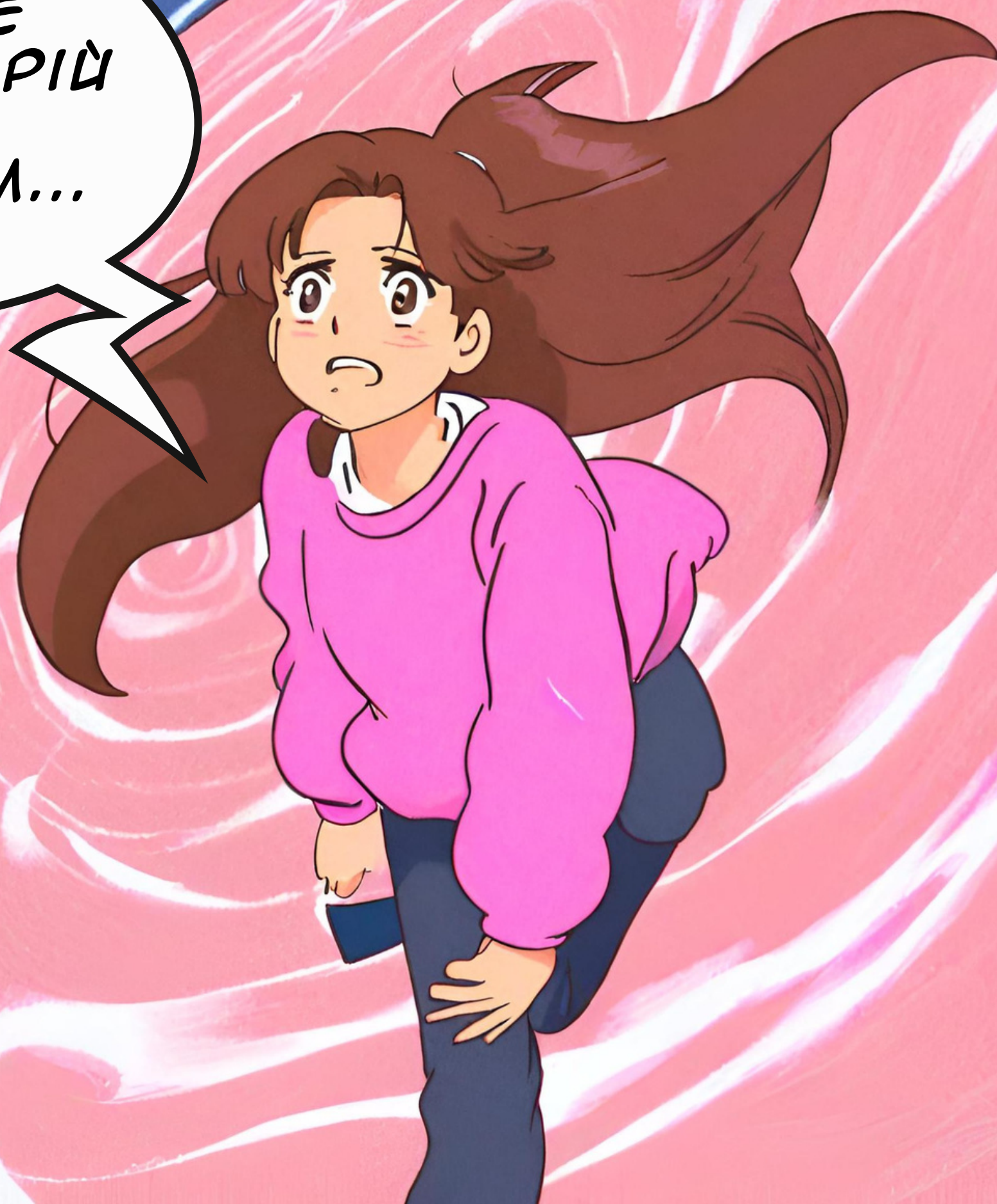
Abstract—In this study, we explore the potential of Game Theory as a means to investigate cooperation and trust in human-robot mixed groups. Particularly, we introduce the Public Good Game (PGG), a model highlighting the tension between individual self-interest and collective well-being. In this study, we use a modified version of the PGG, where participants engage in a game with the human and robot players, where they choose whether to contribute to the group or not. The results show that participants always

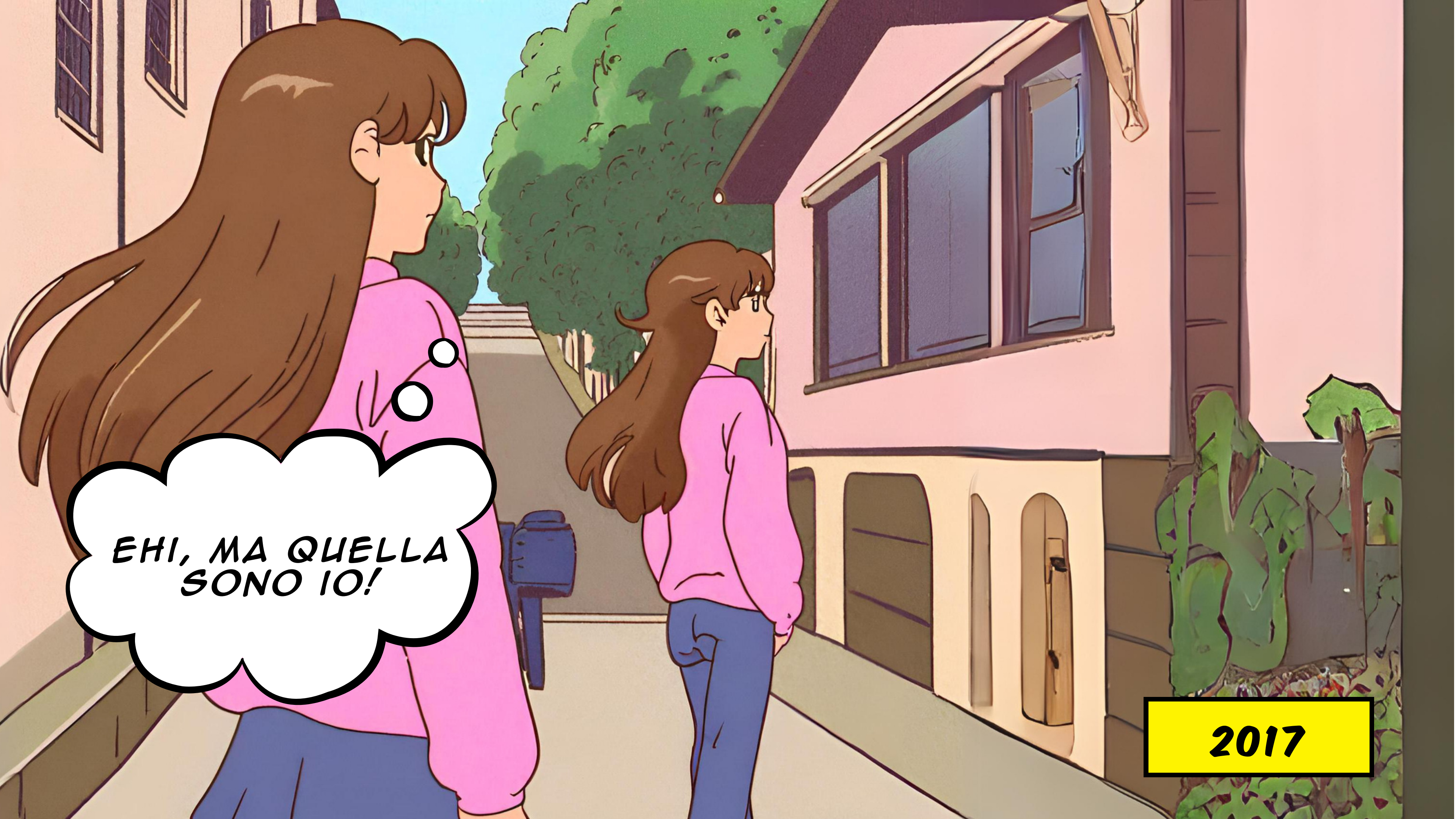
[7], using the Prisoner Dilemma and the Ultimatum Game paradigms, found that people tend to cooperate more with another person than with a robotic agent. However, apparently, they tend to be equivalently reciprocal with humans and robots. Similarly, Hsieh et al. [8] found that people have a strong reciprocal tendency to social robots in economic games and this tendency might even surpass the influence of



...CON LO SCOPO DI CREARE
ROBOT CHE ADATTINO IL LORO
COMPORTAMENTO AL GRUPPO
DI PERSONE CON CUI
INTERAGISCONO

SE VOLETE
SAPERNE DI PIÙ
POTETE
CONTATTARM...
AARGH!





EHI, MA QUELLA
SONO IO!

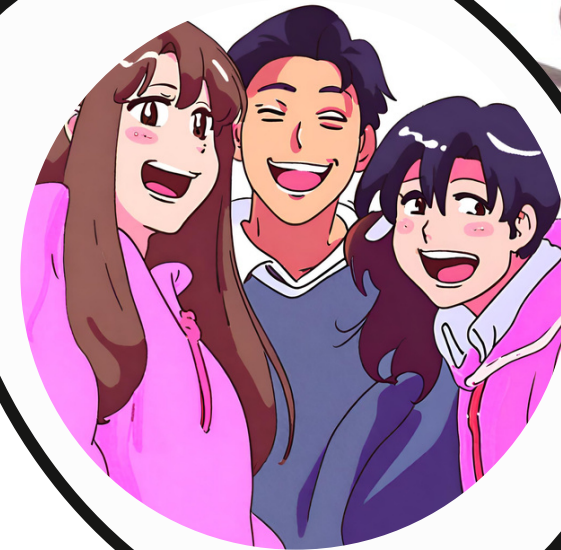
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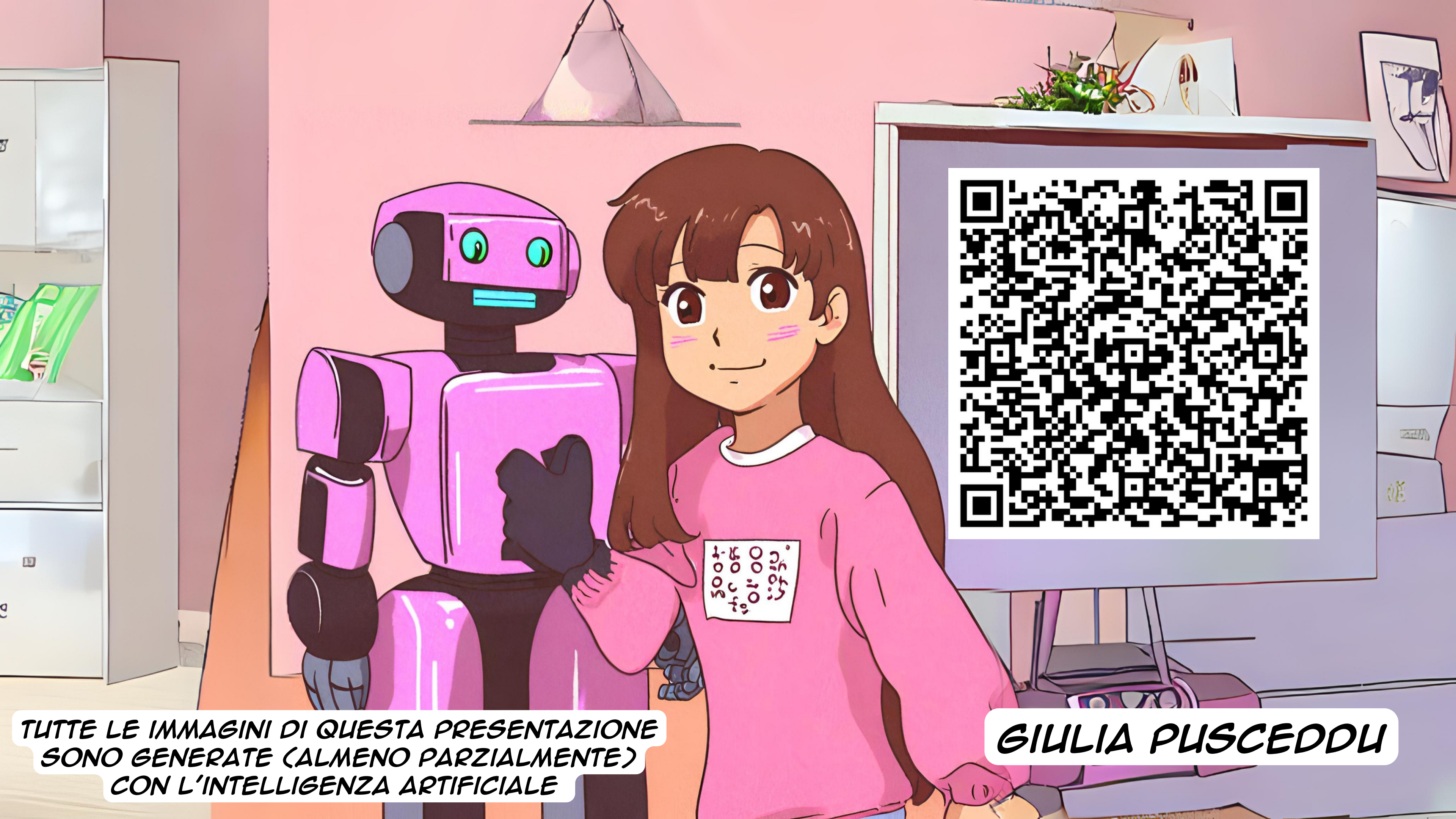
**SE POTESSI PARLARE CON
LA ME STESSA DEL 2017...**

 **ISA**
IANUA STUDENTI E ALUMNI



... E INVESTI NEI
L'ARGE LANGUAGE
MODELS





TUTTE LE IMMAGINI DI QUESTA PRESENTAZIONE
SONO GENERATE (ALMENO PARZIALMENTE)
CON L'INTELLIGENZA ARTIFICIALE

GILLIA PUSCEDDU