Child-Robot Interaction

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Social robots



Social robots in healthcare

• Robots using the power of persuasion to increase outcomes of cardiac rehabilitation therapy.

Irfan, B., Gomez, N. C., Casas, J., Senft, E., Gutiérrez, L. F., Rincon-Roncancio, M., ... & Cifuentes, C. A. (2020, August). Using a Personalised Socially Assistive Robot for Cardiac Rehabilitation: A Long-Term Case Study. In 2020 29th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN) (pp. 124-130). IEEE.



Child-Robot Interaction

- Using social robots to support children who have been diagnosed with diabetes.
- Robot acted as a mental support and learning aid for the children.

EU funded project ALIZ-E (<u>www.aliz-e.org</u>)

Autism Spectrum Disorders

- Robot Enhanced Therapy for children with Autism Spectrum Disorder
- Robot autonomously runs the cognitive behavioural therapy sessions to improve social skills (turn taking, joint attention, ...)
- Results indicate that robot therapy is equivalent to standard therapy



EU funded project DREAM (<u>www.dream2020.eu</u>)

Social robots in education

- Changing demographics
- Greater diversity in the classroom
- Shrinking school budgets
- More pupils per classroom
- A need for personalisation



L2TOR is a European project that investigates how preschool children can learn a second language from a social robot.

Language learning

- Learning a second language using social robots
- Results are encouraging, but technical progress is still insufficient to allow fluent spoken interaction

EU funded project L2TOR (<u>www.l2tor.org</u>)

Concerns

- These robots, through their social nature, can be persuasive and have a strong social influence.
- "A discussion is required about whether protective measures, such as a regulatory framework, should be in place that minimize the risk to children during social child-robot interaction"



Vollmer, A. L., Read, R., Trippas, D., & Belpaeme, T. (2018). Children conform, adults resist: A robot group induced peer pressure on normative social conformity. *Science Robotics*, *3*(21).