2.14 Hybrid Content Generation for Personalized Child-Robot Interaction

Elena Malnatsky   Mike Ligthart   Shenghui Wang   Koen Hindriks

Hybrid Intelligence

Motivation

> **Example conversation between child and a robot math tutor**
> *[Robot]* Hi Asha, it's so nice to see you again! Remember our secret handshake?
> *[Robot and Asha do secret handshake]*
> ...
> *[Robot]* Since you like horses so much, I just have to tell you that before I became a math tutor I was a stable help. I had to brush the horses. There were 14 stables and in each stable there were 7 horses.
> *[Robot]* How many horses did I have to brush?
> *[Asha]* 98
> *[Robot]* Well done

- Child-robot interaction has huge potential to support children in education and healthcare.
- Big challenge is to build *inclusive* and *sustainable* robots that are senstive to children's diversity and can offer support over a longer period of time.
- *Personalization* is key
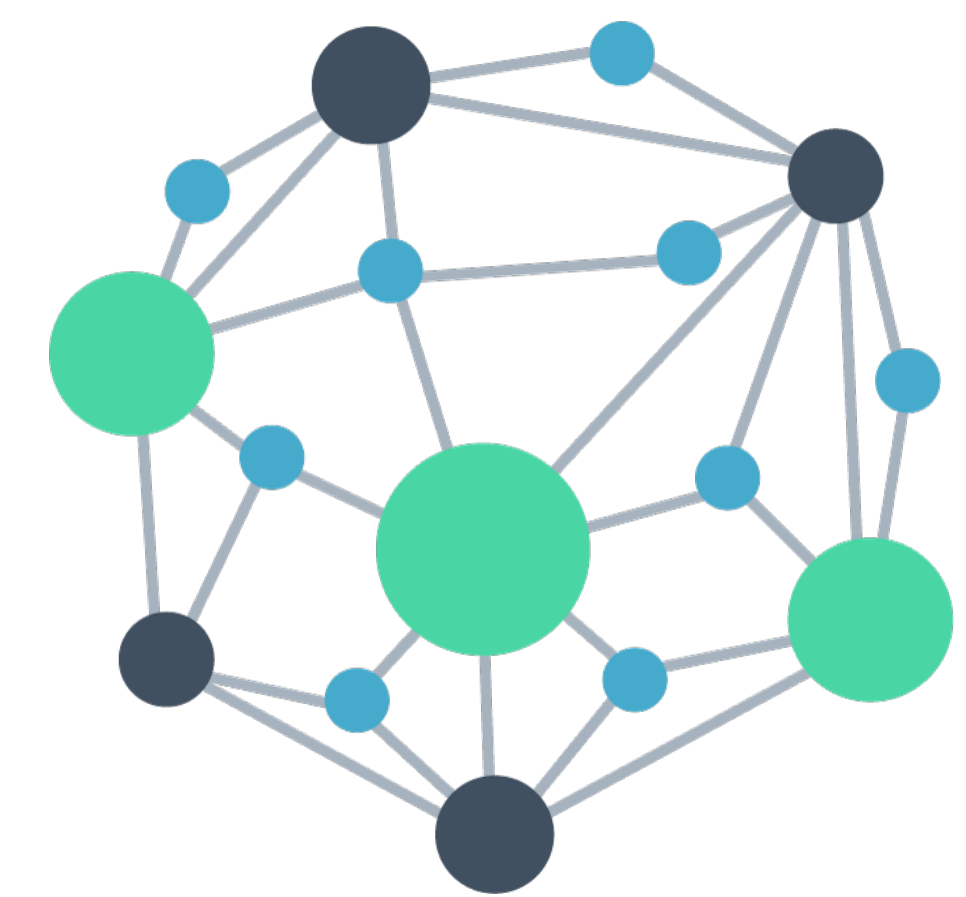- Personalization requires a lot of high quality content.

Research Question

How to leverage the creativity and management ability (e.g. to safeguard consistency, narrative development, and safety for children) of creative professionals (e.g. writers and theater makers) and the flexibility and scalability of (generative) AI technology to generate personalized content for a supportive child-robot interaction?
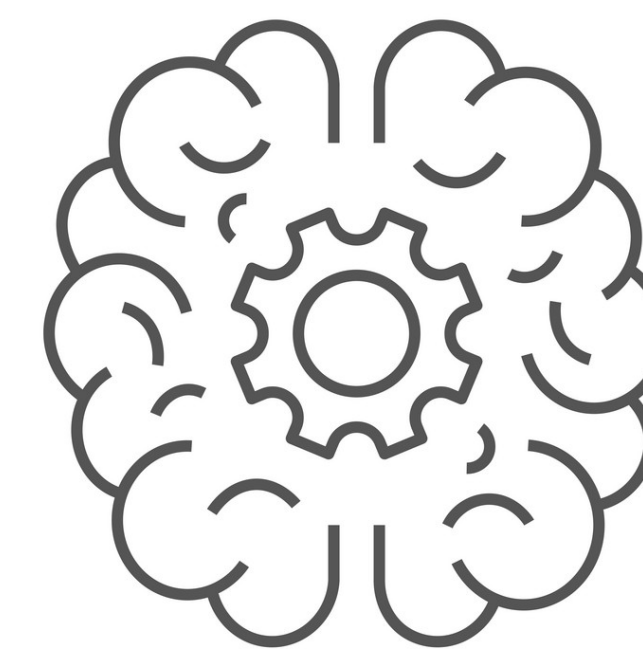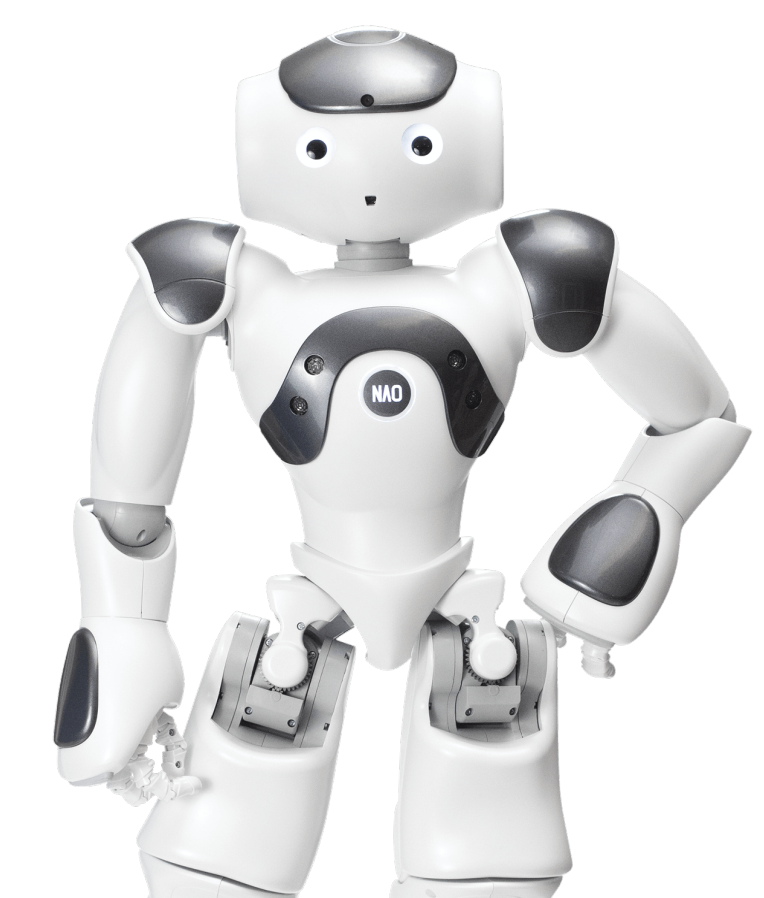
Methodology

Novel integration of 4 technologies
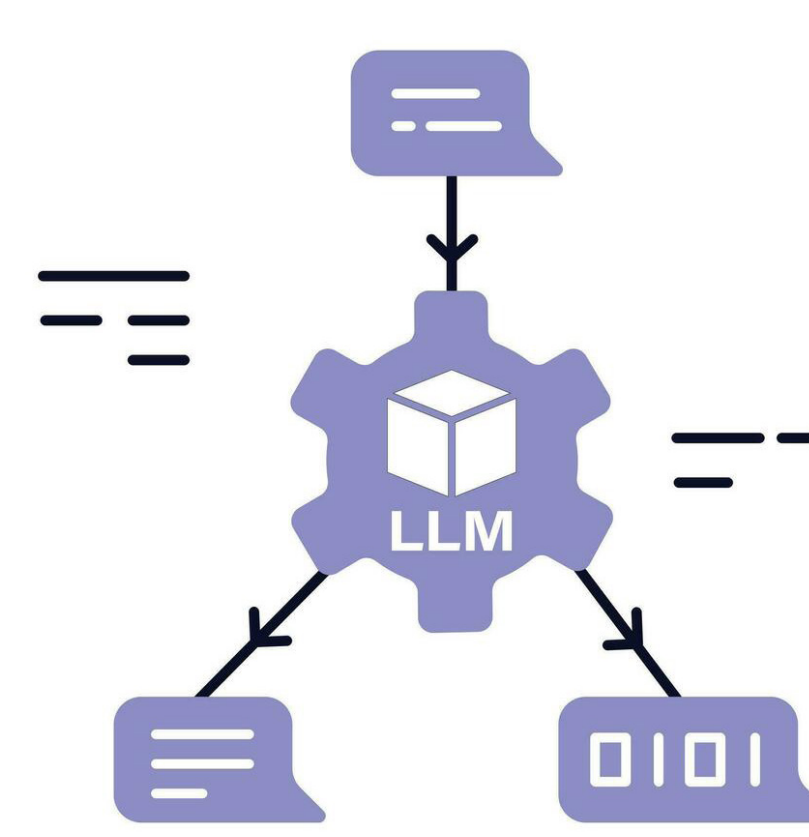
Large Language Models   Knowledge Graphs

Artificial Cognitive Agent   Humanoid Robot

Participatory design

Co-creation and user studies

Call for Collaboration

Lena will start in October 2023 at the VU.

Rearch out if you see opportunities for collaboration to *m.e.u.ligthart@vu.nl* and *shenghui.wang@utwente.nl*.

VRIJE UNIVERSITEIT AMSTERDAM   UNIVERSITY OF TWENTE.