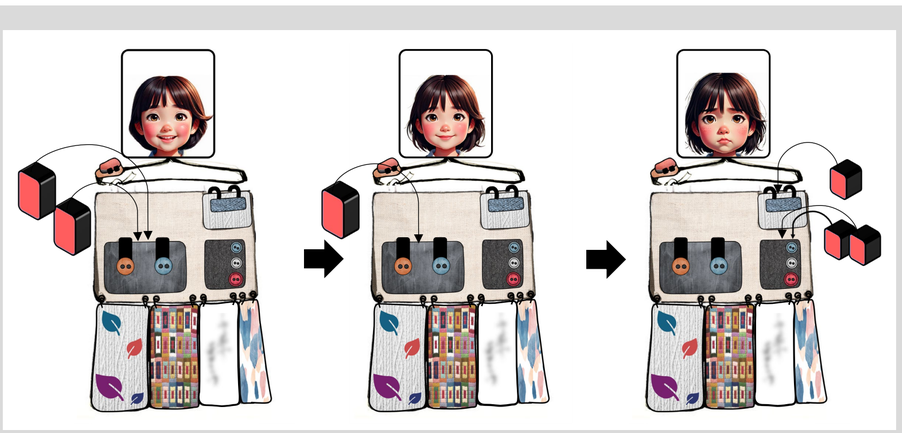
Smart Textile-Based Interaction for Modulating Emotional Facial Expressions

Implemented in an Art Installation

▶ **Physical interaction with emotional facial expressions using textile sensors offers a unique form of expression that could be implemented in interactive art, games, or communication tools.**

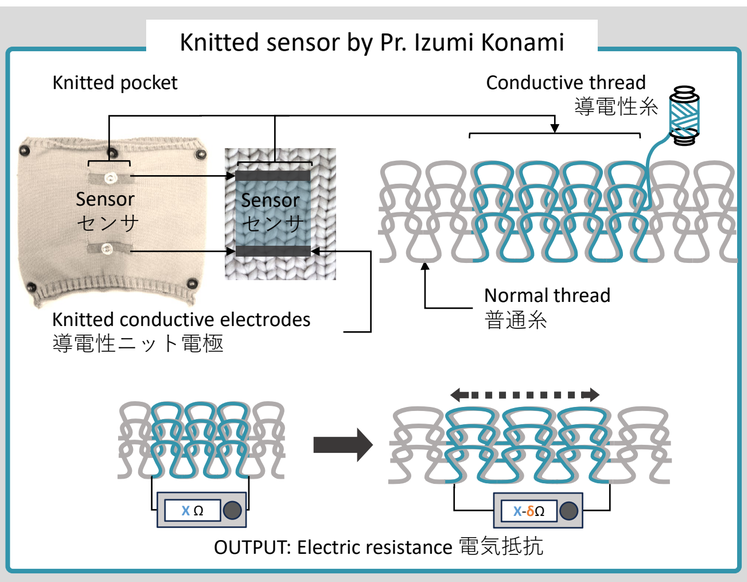
Using the knitted sensor to modulate facial expressions

- **Emotional facial expressions are built from facial features.**
- **Controlling digital facial expressions from the physical world needs sensor technology. The knitted sensor offers a flexible way to control facial expressions. Different knitted sensors could be used to control the different facial features.**
- **We propose a pocket design as knitted sensors that change output values according to the volume of the objects inside the pockets.**



Change in facial expressions according to the volume inside the different pockets

Team collaboration: knitted sensors in the psychology domain



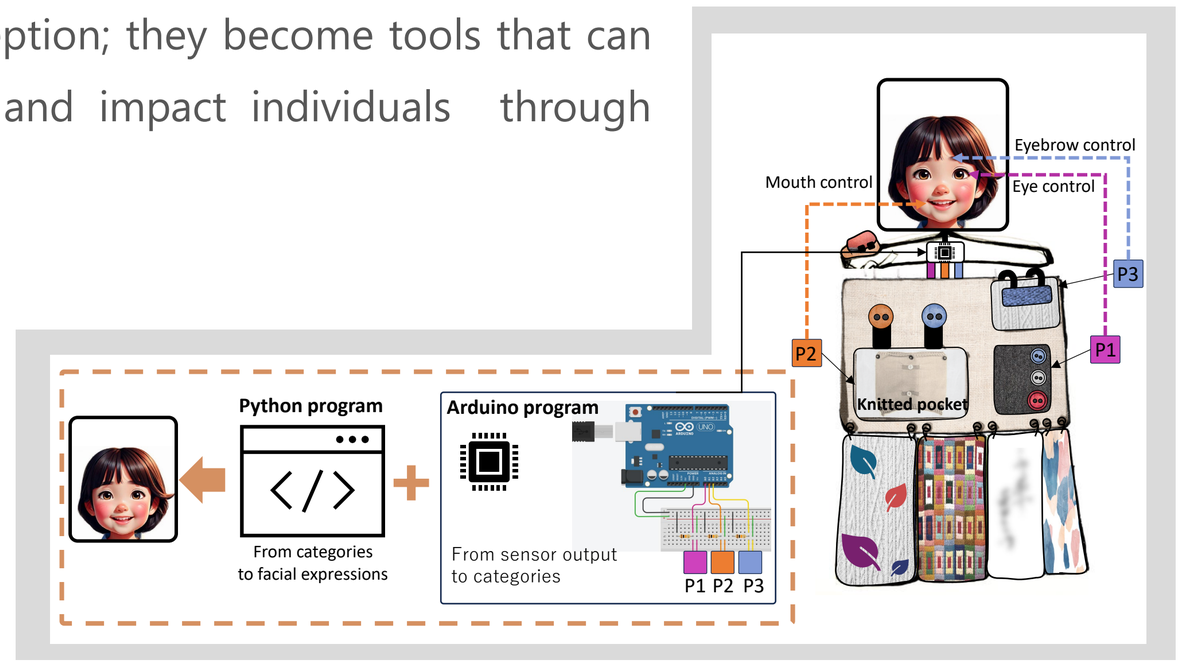
Knitted sensor technology

This project is a collaboration between the Cognition, Environment & Communication Research Team (CECRT) and the Assistive Robotics Research Team (ARRT). A key goal of CECRT is to understand how emotions can be measured through facial expressions and how these expressions influence the emotions of observers. With technology developed by ARRT, we offer a unique approach to exploring facial expressions—through interactive art.

In this context, facial expressions go beyond merely influencing perception; they become tools that can actively engage and impact individuals through interaction.

Applications

- The Pocket Sensor interactive installation is designed as an art installation intended to promote well-being through aesthetic experience. However, the concept is flexible and can also be applied to games, educational tools, or communication aids.



Pocket-sensor interactive installation

人に寄り添い、人を高める
Cuddle People, Augment People

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