Goal1 Realization of a society in which human beings can be free from limitations of body, brain, space, and time by 2050.

Here begins our new MIRAI

MOONSHOT RESEARCH & DEVELOPMENT PROGRAM

Cybernetic Avatar Technology and Social System Design for Harmonious Co-experience and Collective Ability

Project manager

(selected in 2020)

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Cybernetic being

Leader's institution

Keio University

R&D institutions

avatarin Inc., Osaka University, OryLab Inc., Keio University, Sony Computer Science Laboratories, Tokai University, RIKEN, The University of Tokyo, Nagoya University, Nagoya Institute of Technology, Meiji University, Rikkyo University, The University of Maryland

Summary of the Project Cybernetic being

Cybernetic beings are cybernetic avatar technologies that we develop, which enable people to realize their abilities to the fullest, and share their diverse skills and experiences with others throughout the world. Factoring the social and ethical issues with the shared use of such physical skills and experiences, we are building the foundation for embodied skills and experiences to only become the norm, but be harmoniously integrated into society.

By 2050, we aim to realize a society where people can freely connect with one another and co-create embodied experiences via cybernetic avatars.

Human Augmentation by CAs

Use-case Scenario of CAs in 2050

Milestone by year 2030

【Transformation into a large scale remote mutual aid society with diverse human resources to quickly solve problems in emergency situations and social services】

In emergency situations such as disasters or infectious diseases, as well as in fields like education and social welfare, specialists from various fields can operate a large number of CAs in parallel and in co-ordination, enabling efficient mutual and co-operative support at sites where direct support is difficult.

【Creating a remote mutual aid society in which people with physical and cognitive disabilities can participate in social activities】

People with physical and brain limitations can independently extend their own physical, cognitive and perceptual abilities. They can also participate in new cultural, artistic, sporting and educational activities by cooperating and collaborating with others' skill-integrated CAs that agree with each other.

Milestone by year 2025

【Skill & Experience transfer】

By coordinating and collaborating different skills and experiences through CA, which enables multiple agreed-upon people to integrate their physical, cognitive, and perceptual abilities through a network, people can expand and/or re-skill their physical and social abilities according to their needs, and then they will be able to participate in specific activities such as new jobs, education, culture, and sports with respecting each other's individuality and leveraging their differences, regardless of whether they have physical disabilities.

Project structure

1. **Cognitive Augmentation Research Group**
   Designing Cybernetic Avatars that freely draw out the use's potential according to the situation and environment.

2. **Parallel Agency Research Group**
   Designing Cybernetic Avatars that enables to perceive and act in different spaces simultaneously by expanding user's body agency.

3. **Collective Ability Research Group**
   Designing Cybernetic Avatars that can integrate multi users' skills to go beyond individual capabilities.

4. **CA-Cloud Platform Research Group**
   Building a next-generation CA platform to freely share people's experiences and skills toward "digital transformation of the bodily experiences".

5. **Social Co-Creation Research Group**
   Co-creating a well-being lifestyle with Cybernetic Avatars to overcome disabilities and challenges.

6. **Social System Research Group**
   Designing new social rules and ethical norms for the future society where people's experiences and skills are augmented with CA.

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