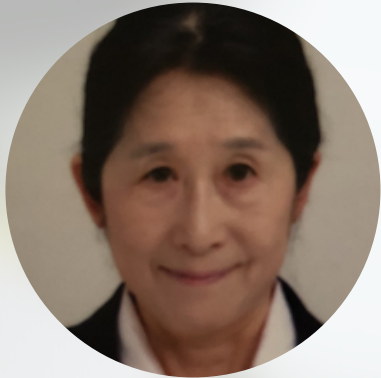# Affective Design Research Directions

Introduction to Kawaii Engineering

Prof. Michiko Ohkura

Shibaura Institute of Technology, Japan

AI and Affective Interface Design

Dr. Anirban Chowdhury

University of Petroleum and Energy Studies, Dehradun, India

NOVEMBER 27, 2021 | 630PM (MANILA TIME)

QR Code Registration

Registration Link

https://zoom.us/meeting/register/tJAod-GhqDsqG9Stthj3Wu7K7Pp9cyHzzQct

Organized by the Technical Committee on Affective Design

Speakers

Dr. Michiko Ohkura, a Professor Emerita and a Specially appointed professor at the Shibaura Institute of Technology (SIT), had been a professor at SIT from 1999 to 2019. Formerly, she worked at the Central Research Laboratory of Hitachi Ltd., and at other companies. She is a fellow of the Virtual Reality Society of Japan, a vice president of the Japan Society of Kansei Engineering, a member of the Science Council of Japan, and a member of The Engineering Academy of Japan. She is also a member of the Institute of Electrical and Electronics Engineers (IEEE) and the Association for the Advancement of Affective Computing (AAAC). Her research interests include interaction design, biological signals, and mathematical models especially from an affective point of view.

Dr. Anirban Chowdhury is an author of a book titled "Neurodesign and Neuromarketing Startup Guide". He is a trainer of Design Thinking & Innovation and Data Analytics. He is a practitioner of Value-Based Design Education, Human Factors, and Affective Design. He is serving as Faculty and Head of UX & IxD and Asst. Dean R & D, School of Design, University of Petroleum and Energy Studies, Dehradun, since October 2017. He has worked for MIT Institute of Design, Pune from 2015 to 2017 as an Assistant Professor of User Experience Design. He is an alumnus of the University of Calcutta. He was recently awarded the 'Springer Young Researcher Award-2015 (Doctoral)' given by the Indian Society of Ergonomics (ISE) for his research work in the area of cognitive ergonomics and user experience design.

Abstracts

Introduction to Kawaii Engineering

"Kawaii" is a Japanese word that represents an affective value; it has positive meanings, such as cute, lovable, and charming. In the 21st century, the affective values of industrial products become very important. However, since not many studies have focused on the kawaii attributes, we focus on a systematic analysis of kawaii products themselves, that is kawaii feeling caused by the attributes such as shapes, colors, and sizes. In this presentation, I will introduce the experimental results for abstract objects in virtual environment and obtained interesting tendencies on kawaii attributes such as kawaii shapes, kawaii colors, and kawaii sizes as the rules of kawaii. We call the process to get those rules as "Kawaii Engineering."

AI and Affective Interface Design

The humanlike intelligence in non-human objects or computing system is known as artificial intelligence (AI). With the help of AI, it is now also possible to capture the affective signals and communicate with computers. This opens up various scopes for affective computing and new modalities of human-computer interactions. On the other hand, AI and affective computing-based devices or products can be used to generate affective responses among users. This lecture covers the current status of development and scopes for AI-based affective interface design. Current development for capturing affective responses includes f-EMG, GSR, face recognition, voice recognition, semantic and sentiment analysis interfaces, etc. Sensors, lightings, and other displays and controls are now been utilized to evoke emotional responses among users using various auditory, visual, and tactile clues.