AugmentedHumans2022 Program ver.12 Mar 2022

Sunday, 13 March 2022

Time (JST)   Time (CET)   Title

16:00-16:20 8:00-8:20   Opening Ceremony
      16:00-16:10   Remark from General chair
      16:10-16:20   Conference program overview

16:20-17:20 8:20-9:20   Keynote Talk
      Session Chair: Masaaki Mochimaru and Kai Kunze

      Title:
      Augmenting human animal communication

Prof. Thad Starner
Thad Starner is a Professor at the Georgia Institute of Technology's School of Interactive Computing. Thad was perhaps the first to integrate a wearable computer into his everyday life as an intelligent personal assistant. Starner's work as a PhD student would help found the field of Wearable Computing.

Abstract:
Animals perceive much more than they can communicate with humans. For example, service dogs can sense when their handlers are about to fall victim to insulin shock. Bomb sniffing dogs can tell the difference between c4 and a peroxide bomb. Pods of dolphins have complex social structures and even refer to each other by name. Over the past decade, we have investigated how to use computer interfaces to help bridge the gap between animal and human communication. In this talk we will discuss some of the more practical use cases for what we have discovered.

17:40-19:00   9:40-11:00   Featured Session "SIP project on Human-interaction platform technology"

      17:40-17:43
          Opening talk
          Prof. Yuichiro Anzai, Director of SIP Human interaction platform technology, JSPS, Japan
      17:43-17:53
          Overview of the SIP project on Human-interaction platform technology
          Dr. Masaaki Mochimaru
        Sub-director of SIP Human interaction platform technology, AIST, Japan
      17:53-17:57

Introduction – Development of supporting and training technology for cognitive interaction in service fields
Dr. Hiroshi Sato
Human Informatics and Interaction Research Institute, AIST, Japan

17:57-18:05
Skills training using VR technology for awareness and priority judgment in customer service
Dr. Takashi Okuma
Human Augmentation Research Center, AIST, Japan

18:05-18:13
TBD
Dr. Jun Ogata
Artificial Intelligence Research Center, AIST, Japan

18:13-18:21
Semantic Interpretation in MICSUS, a Multi-modal Dialog System for Long-term Care of Older People
Dr. Kentaro Torisawa
NICT, Japan

18:21-18:29
Digitizing hammering operation in tunnel inspection with wearable camera system toward skill learning and training
Takafumi Sassa
RIKEN, Japan

18:29-18:37
How Can Cognitive Science And Technology Contribute To Student Learning?
Prof. Kazuo Hiraki
University of Tokyo, Japan

18:37-18:45
Tele-medicine AI & Tele-monitoring AI technologies adaptation to Nursing care
Mr. Teppei Sakano
Allm, Japan

18:45-19:10
Panel discussion (Q&A)
Moderator: Dr. Hiroshi Sato, AIST

19:20-20:20 11:20-12:20 Oral Session SUN.1 #Interface
Session Chair: Kai Kunze

- GazeBreath: Input Method Using Gaze Pointing and Breath Selection, Ryoya Onishi, Tao Morisaki, Shun Suzuki, Saya Mizutani, Takaaki Kamigaki, Masahiro Fujiwara, Yasutoshi Makino and Hiroyuki Shinoda (Full paper)
- EyeMove - Towards Mobile Authentication using EOG Glasses, Kirill Ragozin, Karola Marky, Jie Lu and Kai Kunze (Short paper)
- Understanding Challenges and Opportunities of Technology-Supported SignLanguage Learning, Sarah Faltaous, Torben Winkler, Christina Schneegass, Uwe Gruenefeld and Stefan Schneegass (Full paper)
- E-MASK: A Mask-Shaped Interface for Silent Speech Interaction with Flexible

Strain Sensors, Yusuke Kunimi, Masa Ogata, Hirotaka Hiraki, Motoshi Itagaki, Shusuke Kanazawa and Masaaki Mochimaru (Full paper)

- Knock K nock: A Children-oriented Vocabulary Learning Tangible User Interaction System, Xinrui Fang, Takuro Watanabe, Chengshuo Xia and Arthur Torck (Short paper)

Monday, 14 March 2022

Time (JST)   Time (CET)   Title

11:00-12:00 3:00-4:00   Oral Session MON.1 #Sense, Communication, Prosthesis
Session Chair: Yuichi Kurita

- Pudica: A Framework For Designing Augmented Human-Flora Interaction, Olivia Seow, Cedric Honnet, Simon Perrault and Hiroshi Ishii (Short paper)
- ARcall: Real-Time AR Communication using Smartphones and Smartglasses, Hemant Bhaskar Surale, Yu Jiang Tham, Brian A. Smith and Rajan Vaish (Full paper)
- Morphace: An Integrated Approach for Designing Customizable and Transformative Facial Prosthetic Makeup, Cathy Mengying Fang, Sijia Wang, Yiyao Yang, Kexin Lu, Maria Vlachostergiou and Lining Yao (Full paper)
- On Eliciting a Sense of Self when Integrating with Computers, Valdemar Danry, Pat Pataranutaporn, Florian Floyd Mueller, Pattie Maes and Sang-Won Leigh (Full paper)
- Immersive Virtual Reality Simulations of Bionic Vision, Justin Kasowski and Michael Beyeler (Full paper)

14:40-15:25 6:40-7:25   Oral Session MON.2 #Human-Robot interaction
Session Chair: Thomas Kosch

- Synchronous and Asynchronous Manipulation Switching of Multiple Robotic Embodiment Using EMG and Eye Gaze, Yukiya Nakanishi, Masaaki Fukuoka, Shunichi Kasahara and Maki Sugimoto (Full paper)
- The Reference Frame of Robotic Limbs Contributes to the Sense of Embodiment and Motor Control Process, Kuniharu Sakurada, Ryota Kondo, Fumihiko Nakamura, Masaaki Fukuoka, Michiteru Kitazaki and Maki Sugimoto (Full paper)
- Analysis and Observation of Behavioral Factors Contributing to Improvement of Embodiment to a Supernumerary Limb, Nonoka Nishida, Yukiko Iwasaki, Theophilus Teo, Masaaki Fukuoka, Maki Sugimoto, Po-Han Chen, Fumihiro Kato, Michiteru Kitazaki and Hiroyasu Iwata (Short paper)
- Parallel Ping-Pong: Exploring Parallel Embodiment through Multiple Bodies by a Single User, Kazuma Takada, Midori Kawaguchi, Akira Uehara, Yukiya Nakanishi, Mark Armstrong, Adrien Verhulst, Kouta Minamizawa and Shunichi Kasahara (Full paper)

16:00-18:40 8:00-10:40 Featured Session "JIZAI body & Cybernetic being"

organized by JST ERATO JIZAI body project & JST Moonshot Cybernetic being project

16:00-16:15 Introduction of JST ERATO JIZAI body project
Masahiko Inami (The University of Tokyo)

16:15-16:30 Introduction of JST Moonshot Cybernetic being
Kouta Minamizawa (Keio University Graduate School of Media Design)

16:30-17:30 Panel discussion
Panelists:
Shunichi Kasahara (Sony CSL)
Takuji Narumi(The University of Tokyo)
Michiteru Kitazaki (Toyohashi University of Technology)
Yoichi Miyawaki (The University of Electro-Communications)

Moderators:
Masahiko Inami (The University of Tokyo)
Kouta Minamizawa (Keio University Graduate School of Media Design)

17:30-17:40 Short break

17:40-18:40 Shot-gun research introductions by young researchers
Moderators:
Midori Kawaguchi (Keio University Graduate School of Media Design)

Presenters:
Yukiko Iwasaki (Waseda University)
Yusuke Matsuda (Toyohashi University of Technology)
Junya Nakamura (Toyohashi University of Technology)
Daichi Ueda (The University of Electro-Communications)
Masaaki Fukuoka (Keio University)
Yuji Hatada (The University of Tokyo)
Chi-Lan Yan (The University of Tokyo)
Hagiwara Takayoshi (Keio University Graduate School of Media Design)
Ximing Shen (Keio University Graduate School of Media Design)
Yan He (Keio University Graduate School of Media Design)

19:00-20:00 11:00-12:00 Oral Session MON.3 #Physical training/Sports
Session Chair: Steeven Villa

- SkiSim: A comprehensive Study on Full Body Motion Capture and Real-TimeFeedback in VR Ski Training, Jana Hoffard, Xuan Zhang, Erwin Wu, Takuto Nakamura and Hideki Koike (Full paper)
- Skiing, Fast and Slow: Evaluation of Time Distortion for VR Ski Training, Takashi Matsumoto, Erwin Wu and Hideki Koike (Full paper)
- A System for Augmenting Humans' ability to Learn Kendama Tricks through Virtual Reality Training, Hitoshi Kawasaki, Sohei Wakisaka, Hiroto Saito, Atsushi Hiyama

and Masahiko Inami (Full paper)
- Improving balance ability through Pneumatic Gel Muscle (PGM)-based Augmentation: an Evaluation Study, Priyanka Ramasamy, Masato Hamada, Swagata Das and Yuichi Kurita (Full paper)
- Singing Knit: Soft Knit Biosensing for Augmenting Vocal Performances, Courtney N. Reed, Sophie Skach, Paul Strohmeier and Andrew P. McPherson (Full paper)

20:20-21:40 12:20-13:40 Poster/Demo Session 1
List of posters/demos are shown at the bottom.

Tuesday, 15 March 2022

Time (JST)   Time (CET)   Title

11:00-12:20 3:00-4:20   Poster/Demo Session 2
List of posters/demos are shown at the bottom.

16:20-17:20 8:20-9:20   Oral Session TUE.1 #Haptics
Session Chair: Kouta Minamizawa

- Scenario-based Investigation of Acceptance of Electric Muscle Stimulation, Ambika Shahu, Philipp Wintersberger and Florian Michahelles (Full paper)
- DualEMS: Two-Channel Arbitrary Waveform Electrical Muscle Stimulation Device to Design Interference Stimulation, Hiroki Ohara and Shoichi Hasegawa (Full paper)
- DragTapVib: An On-Skin Electromagnetic Drag, Tap, and Vibration Actuator for Wearable Computing, Likun Fang, Ting Zhu, Erik Pescara, Yiran Huang, Yexu Zhou and Michael Beigl (Full paper)
- Exploring Feedback-based Testing Effects for Skin Reading, Granit Luzhnica, Aleksandra Krajnc and Eduardo Veas (Short paper)
- Increasing the Perceived Speed of Dynamic Handheld Shape Displays through Visuo-Haptic Illusions, Antonin Cheymol, Yutaro Hirao, Shigeo Yoshida and Hideaki Kuzuoka (Full paper)

17:40-18:40 9:40-10:40   Oral Session TUE.2 #VR/AR
Session Chair: Pascal Knierim

- Cyborgs, Human Augmentation, Cybernetics, and JIZAI Body, Masahiko Inami, Daisuke Uriu, Zendai Kashino, Shigeo Yoshida, Hiroto Saito, Azumi Maekawa and Michiteru Kitazaki (Full paper)
- A New Mask for a New Normal: Investigating an AR Supported Future under COVID-19, Zendai Kashino, Daisuke Uriu, Ziyue Zhang, Shigeo Yoshida and Masahiko Inami (Full paper)
- The Butterfly Effect: Novel Opportunities for Steady-State Visually-Evoked Potential Stimuli in Virtual Reality, Jonas Auda, Uwe Gruenefeld, Thomas Kosch and Stefan Schneegass (Full paper)
- Dynamic Appearance Augmentation Method that Enables Easy Prototyping of Masks for Performance, Motoyasu Masui, Yoshinari Takegawa and Keiji Hirata (Full

paper)
- SocialSlider: Changing the Transparency of Avatars, Anna E. M. Wolf, Jens Reinhardt, Marco Kurzweg and Katrin Wolf (Full paper)

19:20-20:00 11:20-12:00 Closing Ceremony

19:20-19:30   Conference statistics by Program chair
19:30-19:50   Award ceremony
- Best paper award
- Best poster and best demo awards

(Best Poster Award and Best Demo Award are sponsored by 15th Rock Ventures (https://www.15th-rock.com/))

19:50-20:00   Remark from General chair

Poster lists

- DynamicSkin: Bio-inspired Scaled Sleeve for Body Temperature Regulation and Dynamic Self-Expression
- Investigate the Piano Learning Rate with Haptic Actuators in Mixed Reality
- Underwater augmented reality interfaces for improved navigation experience
- Introducing a Concept of Gamification to Microscopic Suturing Training
- FroggyHand: A Gesture Based Control System for Omni-Directional Projections
- Effect of Switching from a Teleoperated Excavator with Different Size
- T2Snaker: a Robotic Coach for Table Tennis
- Developing a wearable Augmented Reality for treating phantom limb pain using the Microsoft Hololens 2
- A Model for Selecting Media Type of Memory Cues in Ubiquitous Prostheses
- Improving Motivation by Increasing Tactile Sensitivity to Skin Conditions during Skin Care using Stochastic Resonance
- Effects of Dynamic Dual Body Ownership Illusion on Body Schema
- Deep Learning-Based Perceptual Stimulus Encoder for Bionic Vision
- ``This'' and ``That'' in Teleshopping with Possessive Telepresence Systems using 5G Mobile Networks
- Embodied Noise -- Towards Augmenting the Dart-Throwing Practice over a Sleeve with Randomized Haptic Actuation
- Shared Wind: Creating Awareness by Nature-inspired Ambient Design for Subtle Companionship
- Applying Pneumatic Gel Muscles to Augment Plantar Flexor Muscle Stretching for Children with Cerebral Palsy

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Demo lists

- Telepresence Robot with Novel Stereoscopic Camera Configuration
- StressMincer: Enhancement of Catharsis Effect by Visualization of Words and Destruction with Haptic Feedback
- Alju Dress: Pets living on the body as a metaphor for wearable display designs