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HCI International 2020 – Late Breaking Papers

Multimodality and Intelligence

22nd HCI International Conference, HCII 2020
Copenhagen, Denmark, July 19–24, 2020
Proceedings

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Foreword

The 22nd International Conference on Human-Computer Interaction, HCI International 2020 (HCII 2020), was planned to be held at the AC Bella Sky Hotel and Bella Center, Copenhagen, Denmark, during July 19–24, 2020. Due to the COVID-19 pandemic and the resolution of the Danish government not to allow events larger than 500 people to be hosted until September 1, 2020, HCII 2020 had to be held virtually. It incorporated the 21 thematic areas and affiliated conferences listed on the following page.

A total of 6,326 individuals from academia, research institutes, industry, and governmental agencies from 97 countries submitted contributions, and 1,439 papers and 238 posters were included in the volumes of the proceedings published before the conference. Additionally, 333 papers and 144 posters are included in the volumes of the proceedings published after the conference, as “Late Breaking Work” (papers and posters). These contributions address the latest research and development efforts in the field and highlight the human aspects of design and use of computing systems.

The volumes comprising the full set of the HCII 2020 conference proceedings are listed in the following pages and together they broadly cover the entire field of human-computer interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas.

I would like to thank the Program Board Chairs and the members of the Program Boards of all Thematic Areas and Affiliated Conferences for their valuable contributions towards the highest scientific quality and the overall success of the HCI International 2020 conference.

This conference would not have been possible without the continuous and unwavering support and advice of the founder, conference general chair emeritus and conference scientific advisor, Prof. Gavriel Salvendy. For his outstanding efforts, I would like to express my appreciation to the communications chair and editor of HCI International News, Dr. Abbas Moallem.

July 2020

Constantine Stephanidis

HCI International 2020 Thematic Areas and Affiliated Conferences

Thematic Areas:

- HCI 2020: Human-Computer Interaction
- HIMI 2020: Human Interface and the Management of Information

Affiliated Conferences:

- EPCE: 17th International Conference on Engineering Psychology and Cognitive Ergonomics
- UAHCI: 14th International Conference on Universal Access in Human-Computer Interaction
- VAMR: 12th International Conference on Virtual, Augmented and Mixed Reality
- CCD: 12th International Conference on Cross-Cultural Design
- SCSM: 12th International Conference on Social Computing and Social Media
- AC: 14th International Conference on Augmented Cognition
- DHM: 11th International Conference on Digital Human Modeling & Applications in Health, Safety, Ergonomics & Risk Management
- DUXU: 9th International Conference on Design, User Experience and Usability
- DAPI: 8th International Conference on Distributed, Ambient and Pervasive Interactions
- HCIBGO: 7th International Conference on HCI in Business, Government and Organizations
- LCT: 7th International Conference on Learning and Collaboration Technologies
- ITAP: 6th International Conference on Human Aspects of IT for the Aged Population
- HCI-CPT: Second International Conference on HCI for Cybersecurity, Privacy and Trust
- HCI-Games: Second International Conference on HCI in Games
- MobiTAS: Second International Conference on HCI in Mobility, Transport and Automotive Systems
- AIS: Second International Conference on Adaptive Instructional Systems
- C&C: 8th International Conference on Culture and Computing
- MOBILE: First International Conference on Design, Operation and Evaluation of Mobile Communications
- AI-HCI: First International Conference on Artificial Intelligence in HCI

Conference Proceedings – Full List of Volumes

1. LNCS 12181, Human-Computer Interaction: Design and User Experience (Part I), edited by Masaaki Kurosu
2. LNCS 12182, Human-Computer Interaction: Multimodal and Natural Interaction (Part II), edited by Masaaki Kurosu
3. LNCS 12183, Human-Computer Interaction: Human Values and Quality of Life (Part III), edited by Masaaki Kurosu
4. LNCS 12184, Human Interface and the Management of Information: Designing Information (Part I), edited by Sakae Yamamoto and Hirohiko Mori
5. LNCS 12185, Human Interface and the Management of Information: Interacting with Information (Part II), edited by Sakae Yamamoto and Hirohiko Mori
6. LNAI 12186, Engineering Psychology and Cognitive Ergonomics: Mental Workload, Human Physiology, and Human Energy (Part I), edited by Don Harris and Wen-Chin Li
7. LNAI 12187, Engineering Psychology and Cognitive Ergonomics: Cognition and Design (Part II), edited by Don Harris and Wen-Chin Li
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18. LNCS 12198, Digital Human Modeling & Applications in Health, Safety, Ergonomics & Risk Management: Posture, Motion and Health (Part I), edited by Vincent G. Duffy
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38. CCIS 1224, HCI International 2020 Posters (Part I), edited by Constantine Stephanidis and Margherita Antona
39. CCIS 1225, HCI International 2020 Posters (Part II), edited by Constantine Stephanidis and Margherita Antona

40. CCIS 1226, HCI International 2020 Posters (Part III), edited by Constantine Stephanidis and Margherita Antona
41. LNCS 12423, HCI International 2020 – Late Breaking Papers: User Experience Design and Case Studies, edited by Constantine Stephanidis, Aaron Marcus, Elizabeth Rosenzweig, P.L. Patrick Rau, Abbas Moallem, and Matthias Rauterberg
42. LNCS 12424, HCI International 2020 – Late Breaking Papers: Multimodality and Intelligence, edited by Constantine Stephanidis, Masaaki Kurosu, Helmut Degen, and Lauren Reinerman-Jones
43. LNCS 12425, HCI International 2020 – Late Breaking Papers: Cognition, Learning and Games, edited by Constantine Stephanidis, Don Harris, Wen-Chin Li, Dylan D. Schmorow, Cali M. Fidopiastis, Panayiotis Zaphiris, Andri Ioannou, Xiaowen Fang, Robert Sottilare, and Jessica Schwarz
44. LNCS 12426, HCI International 2020 – Late Breaking Papers: Universal Access and Inclusive Design, edited by Constantine Stephanidis, Margherita Antona, Qin Gao, and Jia Zhou
45. LNCS 12427, HCI International 2020 – Late Breaking Papers: Interaction, Knowledge and Social Media, edited by Constantine Stephanidis, Gavriel Salvendy, June Way, Sakae Yamamoto, Hirohiko Mori, Gabriele Meiselwitz, Fiona Fui-Hoon Nah, and Keng Siau
46. LNCS 12428, HCI International 2020 – Late Breaking Papers: Virtual and Augmented Reality, edited by Constantine Stephanidis, Jessie Y.C. Chen, and Gino Fragomeni
47. LNCS 12429, HCI International 2020 – Late Breaking Papers: Digital Human Modeling and Ergonomics, Mobility and Intelligent Environments, edited by Constantine Stephanidis, Vincent G. Duffy, Norbert Streitz, Shin'ichi Konomi, and Heidi Krömker
48. CCIS 1293, HCI International 2020 – Late Breaking Posters (Part I), edited by Constantine Stephanidis, Margherita Antona, and Stavroula Ntoa
49. CCIS 1294, HCI International 2020 – Late Breaking Posters (Part II), edited by Constantine Stephanidis, Margherita Antona, and Stavroula Ntoa

<http://2020.hci.international/proceedings>



HCI International 2020 (HCII 2020)

The full list with the Program Board Chairs and the members of the Program Boards of all thematic areas and affiliated conferences is available online at:

<http://www.hci.international/board-members-2020.php>



HCI International 2021

The 23rd International Conference on Human-Computer Interaction, HCI International 2021 (HCII 2021), will be held jointly with the affiliated conferences in Washington DC, USA, at the Washington Hilton Hotel, July 24–29, 2021. It will cover a broad spectrum of themes related to human-computer interaction (HCI), including theoretical issues, methods, tools, processes, and case studies in HCI design, as well as novel interaction techniques, interfaces, and applications. The proceedings will be published by Springer. More information will be available on the conference website: <http://2021.hci.international/>

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Contents

Multimodal Interaction

Eye Movement Classification Algorithms: Effect of Settings on Related Metrics	3
<i>Amin G. Alhashim</i>	
An Antenatal Care Awareness Prototype Chatbot Application Using a User-Centric Design Approach	20
<i>Mohammed Bahja, Nour Abuhwaila, and Julia Bahja</i>	
A User-Centric Framework for Educational Chatbots Design and Development	32
<i>Mohammed Bahja, Rawad Hammad, and Gibran Butt</i>	
CollegeBot: A Conversational AI Approach to Help Students Navigate College.	44
<i>Mohinish Daswani, Kavina Desai, Mili Patel, Reeya Vani, and Magdalini Eirinaki</i>	
User Expectations of Social Robots in Different Applications: An Online User Study	64
<i>Xiao Dou, Chih-Fu Wu, Xi Wang, and Jin Niu</i>	
Creating Emotional Attachment with Assistive Wearables	73
<i>Neda Fayazi and Lois Frankel</i>	
AuDimo: A Musical Companion Robot to Switching Audio Tracks by Recognizing the Users Engagement	89
<i>W. K. N. Hansika, Lakindu Yasassri Nanayakkara, Adhisha Gammanpila, and Ravindra de Silva</i>	
Transmission of Rubbing Sensation with Wearable Stick-Slip Display and Force Sensor	107
<i>Honoka Haramo, Vibol Yem, and Yasushi Ikei</i>	
Reading Aloud in Human-Computer Interaction: How Spatial Distribution of Digital Text Units at an Interactive Tabletop Contributes to the Participants' Shared Understanding	117
<i>Svenja Heuser, Béatrice Arend, and Patrick Sunnen</i>	
Speech Recognition Approach for Motion-Enhanced Display in ARM-COMS System.	135
<i>Teruaki Ito, Takashi Oyama, and Tomio Watanabe</i>	

Individual's Neutral Emotional Expression Tracking for Physical Exercise Monitoring	145
<i>Salik Ram Khanal, Jaime Sampaio, João Barroso, and Vitor Filipe</i>	
Exploring Pointer Assisted Reading (PAR): Using Mouse Movements to Analyze Web Users' Reading Behaviors and Patterns	156
<i>Ilan Kirsh and Mike Joy</i>	
The Effects of Robot Appearances, Voice Types, and Emotions on Emotion Perception Accuracy and Subjective Perception on Robots	174
<i>Sangjin Ko, Xiaozhen Liu, Jake Mamros, Emily Lawson, Haley Swaim, Chengkai Yao, and Myounghoon Jeon</i>	
Development for Tablet-Based Perimeter Using Temporal Characteristics of Saccadic Durations	194
<i>Naoki Maeshiba, Kentaro Kotani, Satoshi Suzuki, and Takafumi Asao</i>	
Automatic Page-Turner for Pianists with Wearable Motion Detector	209
<i>Seyed Ali Mirazimzadeh and Victoria McArthur</i>	
A Sociable Robotic Platform to Make Career Advices for Undergraduates . . .	219
<i>W. K. Malithi Mithsara, Udaka A. Manawadu, and P. Ravindra S. De Silva</i>	
Development and Evaluation of a Pen Type Thermal Sensation Presentation Device for SPIDAR-Tablet.	231
<i>Kaede Nohara, Yasuna Kubo, Makoto Sato, Takehiko Yamaguchi, and Tetsuya Harada</i>	
CountMarks: Multi-finger Marking Menus for Mobile Interaction with Head-Mounted Displays	241
<i>Jordan Pollock and Robert J. Teather</i>	
Single-Actuator Simultaneous Haptic Rendering for Multiple Vital Signs . . .	261
<i>Juliette Regimbal, Nusaiba Radi, Antoine Weill-Duflos, and Jeremy R. Cooperstock</i>	
Development of an Interface that Expresses Twinkling Eyes by Superimposing Human Shadows on Pupils	271
<i>Yoshihiro Sejima, Makiko Nishida, and Tomio Watanabe</i>	
MUCOR: A Multiparty Conversation Based Robotic Interface to Evaluate Job Applicants	280
<i>H. A. S. D. Senaratna, Udaka A. Manawadu, W. K. N. Hansika, S. W. A. M. D. Samarasinghe, and P. Ravindra S. De Silva</i>	

Usability Evaluation of Smartphone Keyboard Design from an Approach of Structural Equation Model	294
<i>Yincheng Wang, Junyu Huo, Yuqi Huang, Ke Wang, Di Wu, and Jibo He</i>	
Understanding Voice Search Behavior: Review and Synthesis of Research . . .	305
<i>Zhaopeng Xing, Xiaojun Yuan, Dan Wu, Yeman Huang, and Javed Mostafa</i>	
Evaluation of Speech Input Recognition Rate of AR-Based Drawing Application on Operation Monitor for Communication Support During Endoscopic Surgery	321
<i>Takuto Yajima, Takeru Kobayashi, Kentaro Kotani, Satoshi Suzuki, Takafumi Asao, Kazutaka Obama, Atsuhiko Sumii, and Tatsuto Nishigori</i>	
TracKenzan: Digital Flower Arrangement Using Trackpad and Stylus Pen . . .	332
<i>Anna Yokokubo, Yuji Kato, and Itiro Sii</i>	
Mapping Between Mind Cybernetics and Aesthetic Structure in Real-Time EEG Art	344
<i>Minli Zhang, Yiyuan Huang, Salah Uddin Ahmed, and Mohammad Shidujaman</i>	
User Experience Analysis for Visual Expression Aiming at Creating Experience Value According to Time Spans	363
<i>Cairen Zhuoma, Keiko Kasamatsu, and Takeo Ainoya</i>	
AI in HCI	
Army: A Study of a Co-creative Interaction Model Focused on Emotion Feedback	377
<i>Sarah Abdellahi, Mary Lou Maher, Safat Siddiqui, Jeba Rezwana, and Ali Almadan</i>	
Towards Intelligent Technology in Art Therapy Contexts	397
<i>Woud AlSadoun, Nujood Alwahaibi, and Lean Altwayan</i>	
Explainable Classification of EEG Data for an Active Touch Task Using Shapley Values	406
<i>Haneen Alsuradi, Wanjo Park, and Mohamad Eid</i>	
SANDFOX Project Optimizing the Relationship Between the User Interface and Artificial Intelligence to Improve Energy Management in Smart Buildings	417
<i>Christophe Bortolaso, Stéphanie Combettes, Marie-Pierre Gleizes, Berangere Lartigue, Mathieu Raynal, and Stéphanie Rey</i>	

Safety Analytics for AI Systems 434
Yang Cai

Human-Centered Explainable AI: Towards a Reflective
Sociotechnical Approach 449
Upol Ehsan and Mark O. Riedl

The Power of Augmented Reality and Artificial Intelligence During
the Covid-19 Outbreak. 467
Chutisant Kerdvibulvech and Liming (Luke) Chen

V-Dream: Immersive Exploration of Generative Design Solution Space 477
Mohammad Keshavarzi, Ardavan Bidgoli, and Hans Kellner

Usability in Mixed Initiative Systems 495
Sachin Kumarswamy

Human Versus Machine and Human-Machine Teaming on Masked
Language Modeling Tasks 505
Ming Qian and Davis Qian

Using Artificial Intelligence to Predict Academic Performance 517
Arsénio Reis, Tânia Rocha, Paulo Martins, and João Barroso

Why Did the Robot Cross the Road?: A User Study of Explanation
in Human-Robot Interaction 527
Zachary Taschdjian

Author Index 539