2024
IHIET International

11ᵗʰ International Conference on

Human Interaction and Emerging Technologies (IHIET-AI 2024)

Artificial Intelligence & Future Applications

April 25-27, 2024

Centre Hospitalier Universitaire Vaudois Lausanne, Switzerland

Final Program

WWW.IHIET-AI.ORG

IHIET-AI 2024
Conference Reception

Conference Organization

Scientific and Technical Session: April 26-27, 2024
Location: Lausanne University Hospital
(CHUV Centre Hospitalier Universitaire Vaudois)
Address: Rue du Bugnon 46, 1011 Lausanne, Switzerland

Conference Tracks

ACRONYM	TRACK
IHIET 1	Human-centered Design
IHIET 2	Artificial Intelligence, Computing and Intelligent Design
IHIET 3	Augmented, Virtual and Mixed Reality Simulation
IHIET 4	Wearable Technologies, Social and Affective Computing
IHIET 5	Human–computer Interaction
IHIET 6	Human-Technology and Future of Work
IHIET 7	Emerging Technologies and Business Applications
IHIET 8	Applications in Medicine and Healthcare
IHIET 9	Management, Training and Business Applications
IHIET 10	General

Conference at a Glance

Scientific and Technical Session:
April 26-27, 2024 Location: Lausanne
University Hospital (CHUV Centre Hospitalier Universitaire Vaudois)
Location: Rue du Bugnon 46, 1011 Lausanne, Switzerland

Friday - Saturday, April 26-27, 2024

#	TITLE	ROOM	TRACK
Friday April 26, 2024 - Session Time: 9:00 - 10:30 CET			
1	Plenary: Human-centered Design I	Genève	IHIET 1
2	Plenary: Artificial Intelligence, Computing and Intelligent Design	Bern	IHIET 2
10:30 - 11:00 • Coffee Break			
Friday April 26, 2024 - Session Time: 11:00 - 12:30			
3	Augmented, Virtual and Mixed Reality Simulation	Genève	IHIET 3
4	Human–computer Interaction	Bern	IHIET 5
12:30 - 13:30 • Lunch Break (Level 1)			
Friday April 26, 2024 - Session Time: 13:30 -15:00			
5	Human-Technology and Future of Work	Genève	IHIET 6
End of Day 1 Technical Sessions			
Saturday April 27, 2024 - Session Time: 9:00 - 10:30 CET			
6	Emerging Technologies and Business Applications	Genève	IHIET 8
7	Applications in Medicine and Healthcare	Bern	IHIET 7
10:30 - 11:00 • Coffee Break (Level 1)			
Saturday April 27, 2024 - Session Time: 11:00 - 12:30			
8	Emerging Technologies	Genève	IHIET 1
9	Human-centered Design II	Bern	IHIET 10
End of Day 2 Technical Sessions			

Detailed Program

The IHIET-AI 2024 Technical Sessions will be held April 26-27, 2024 at the **Lausanne University Hospital (CHUV Centre Hospitalier Universitaire Vaudois)** Address: Rue du Bugnon 46, 1011 Lausanne, Switzerland

CHUV Centre hospitalier universitaire vaudois

DAY 1	(Room: Genève)
SESSION 1	**Plenary: Human-centered Design I**
Friday, April 26	**Session Chair(s): Anne Karrenbrock, Germany and Christoph Stahl, Luxembourg**
9:00 - 10:30 CET	Acknowledging tacit knowledge: Outlining participatory workshops in a human-centered design process Anne Karrenbrock, Laura Brendel, Laura Popplow, Valerie Varney, Germany
	LIFANA – User-centered design of a personalized meal recommender app for the elderly Christoph Stahl, Krizia Ferrini, Torsten Bohn, Luxembourg
	User Preferences for Smart Applications for a Self-Powered Tabletop Gestural Interface Nora Almania, Sarah Alhouli, Deepak Sahoo, United Kingdom
	Conceptual voicebot in the context of a passenger information system in an automated bus Benedikt Haas, Eric Sax, Germany
	Team Effectiveness of Higher Education Students through Project-based and Agile Education for Sustainable Development Vasiliki Karampa, Foteini Paraskeva, Greece
	Fostering Student Creativity: A Curriculum Proposal in the Context of "Innovation and Entrepreneurship" and "Double Reduction" Policies Ruonan Huang, Bowen Li, Jingjing Zhang, Takumi Ohashi, Y Chen, Jing Ma, Zi Wang, Mengyi Zhang, Ruilu Yu, Dan Qiu, Yiyang Liu, Z Zou, Wei Liu, China
	Effects of Digital Art Emotional Expression Therapy on the Rehabilitation of Children with Autism Spectrum Disorder Zhenyu Liu, Cheng Yao, Fangtian Ying, China

DAY 1	(Room: Bern)

SESSION 2	**Plenary: Artificial Intelligence, Computing and Intelligent Design**
Friday, April 26	**Session Chair(s): Deborah Middleton, United States and Veljko Vučinić, Germany**
9:00 - 10:30 CET	Evaluating Human – AI Design Interaction From the Perspective of Cognitive Abstraction Deborah A Middleton, United States
	USID - Unsupervised Identification of the Driver for Vehicle Comfort Functions Veljko Vučinić, Luca Seidel, Marco Stang, Eric Sax, Germany
	Virtual Reality (VR) and Simulated Air Traffic Control Environment (SATCE) in flight training: The Purdue Case study Dimitrios Ziakkas, Gede Bagus Michael Kim, Dimitra - Eirini Synodinou, United States
	Sense of technology self-efficacy and motivation coexisting with algorithmic thinking Jussi Okkonen, Antti Syvänen, Jari Laarni, Jarmo Viteli, Mikael Wahlström, Mia Laine, Finland
	TauchiGPT_V2: An Offline Agent-based Opensource AI Tool designed to Assist in Academic Research Ahmed Farooq, Jari Kangas, Mounia Ziat, Roope Raisamo, Finland
	Integrating Generative AI into the Design Process: A Case Study on Space Engineering Mohammad Amin Kuhail, Jose Berengueres, Fatma Taher, Sana Khan, United Arab Emirates
	Exploring Metamorphic Testing for Self-learning Functions with User Interactions Marco Stang, Luca Seidel, Veljko Vučinić, Eric Sax, Germany
	10:30 - 11:00 • Sessions Break

DAY 1	(Room: Genève)

SESSION 3	**Augmented, Virtual and Mixed Reality Simulation**
Friday, April 26	**Session Chair(s): Susanna Testa, Italy and Vivian Chung, United Kingdom**
11:00 - 12:30 CET	Immersive Innovation: Bridging Digital Design and Virtual Realities in Jewellery Livia Tenuta, Susanna Testa, Beatrice Rossato, Italy
	Design and implementation of a marker-based AR-enabled tool tracking system for manufacturing manual operation Vivian Chung, Daniel Vera, Jiayi Zhang, United Kingdom
	Hybridization possibilities of two approaches: Participatory Design and User-Centered Design Mexhid Ferati, Arianit Kurti, Sweden

Digital competences in health professionals. Public hospitals case of peru.
 Danicsa Karina Espino Carrasco, Madeleine Espino Carrasco, Luis Dávila Valdera, Edson Valdera Benavides, Anny Dávila Valdera, Mayury Espino Carrasco, Royer Vásquez Cachay, Lady Dávila Valdera, Carmen Arbulú Pérez Vargas, Ricardo Diaz Calderon, Cindy Vargas Cabrera, Ana Maria Alvites Gasco, Claudia Arbañil Chicoma, Clarisa Gomez Romero, Rafael Martel Acosta, Roque Valderrama Soto, Peru

Automatic transcription of the Methods-Time Measurement MTM-1 motions in VR
 Valentina Gorobets, Roman Billeter, Rolf Adelsberger, Andreas Kunz, Switzerland

DAY 1	**(Room: Bern)**
SESSION 4	**Human–computer Interaction**
Friday, April 26	**Session Chair(s): Gérard Chollet, France and Andreas Alexopoulos, Germany**
11:00 - 12:30 CET	Privacy Preserving Personal Assistant with On-Device Diarization and Spoken Dialogue System for Home and beyond Gérard Chollet, Hugues Sansen, Yannis Tevissen, Jérôme Boudy, Mossaab Hariz, Christophe Lohr, Fathy Yassa, France
	Adaptive Visualization Framework for Human-Centric Data Interaction in Time-Critical Environments Andreas Alexopoulos, Jean Vanderdonckt, Luis Leiva, Ioannis Arapakis, Michalis Vakalellis, Vassilis Prevelakis, Germany
	Elaborating a framework that is able to structure and evaluate design workflow and composition of Generative AI visualizations. Gianmarco Longo, Deborah A Middleton, Silvia Albano, Italy
	A PBL experience: Joining Human-Computer Interaction and Mobile programming Álvaro Santos, Anabela Gomes, Portugal
	The Convergent Validity of Computer Operating Systems' Usability Evaluation by Popular Generative Artificial Intelligence (AI) Robots Victor K Y Chan, Macau Sar China
	12:30 - 13:30 • Lunch Break (Lunch will be provided)

DAY 1	(Room: Genève)

SESSION 5	**Human-Technology and Future of Work**
Friday, April 26	**Session Chair(s): Silvia Albano, China and Dorothea Liehr, Germany**
13:30 - 15:00 CET	How can physical studio space integrate and support speculative AI design experimentation and visualization workflows? Silvia Albano, Deborah A Middleton, Gianmarco Longo, Italy
	Do you know what's going on? - Examining Situation Awareness for Different Communication Concepts of an E-Cargo Bike Autonomous Parking Function Dorothea Liehr, Isabel Kreißig, Jakob Siegmund, Susanne Creutz, Hendrik Meißner, Josef Krems, Germany
	Usability Evaluation of Advising Services Platform to Advance Sustainable Quality Services of Students in Higher Education Haseena Al Katheeri, Rifat Gurcan Ozdemir, United Arab Emirates
	Headset type ear-gas biosensor for non-invasive blood volatile monitoring Kohji Mitsubayashi, Kenta Ichikawa, Kenta Iitani, Japan
	Learning analytics to validate academic performance analysis Pedro Oliveira, Paulo Matos, Portugal
	Crafting the Future: A Comprehensive Workflow for Generative Jewelry Design Larissa Gomide, Wagner Meira Jr, Brazil
	End of Day 1 Technical Sessions

Day 2 Technical Sessions - Saturday, April 27, 2024	**(Room: Genève)**

SESSION 6	**Emerging Technologies and Business Applications**
Saturday, April 27	**Session Chair(s): Dimitrios Ziakkas, United States and Ivan Parati, China**
9:00 - 10:30 CET	Workforce Planning in Aviation: The implementation of Artificial Intelligence in Recruitment Dimitrios Ziakkas, Anastasios Plioutsias, Ibrahim Sarikaya, United States
	AI powered Social Communication: a Qualitative Investigation in to Social and Ethical Concerns Vikrant Yadav, India
	Using Future Thinking as a steering tool for Generative AI creative output: a case study aiming at rethink lighting in the next future Ivan Parati, Mariia Zolotova, China
	The Role of Artificial Intelligence in the Fatigue Risk Management System Dimitrios Ziakkas, Julius Keller, Sudip Vhaduri, United States

A Relationship Model between the Perceived Economic Value of Computer Operating Systems and their Usability: All Variables Evaluated by Copilot AI
    Victor K Y Chan, Macau Sar China

DAY 2   **(Room: Bern)**

SESSION 7   **Applications in Medicine and Healthcare**

Saturday, April 27   **Session Chair(s): Alan Liu, United States and Lewen Ivy Huang, Canada**

9:00 - 10:30 CET

Development of a System for Real-time Assessment and Modification of Team-based Exercises
    Alan Liu, Richard Wainess, United States

Investigating AI Model Limitations in Recognizing Faces and Bodies in Ballroom Dance Settings
    Lewen Ivy Huang, Canada

Using AI to Detect Medicare Fraud
    Linda Bower, United States

Human values assessment toward AI-based patient state prediction
    Masayuki Ihara, Hiroko Tokunaga, Hiroki Murakami, Shinpei Saruwatari, Akihiko Koga, Takashi Yukihira, Shinya Hisano, Kazuki Takeshita, Ryoichi Maeda, Masashige Motoe, Japan

Precision and reliability of digital blood pressure monitor when monitoring the blood pressure of patients in critical units of a hospital in Peru
    Carlos Ojeda, Danicsa Espino, Diego Henrri Ojeda Alberca, Zayra Marivel More Davis, Fátima Giovana Vásquez Vigil, Fadia Zulema Huerta Huerta, Flor Juliana Mercedes Risco Ipanaque, Samame Talledo Belinda Elvira, Peru

Recommendations for the use of resilience matrix in healthcare institutions
    Kenta Nakayama, Kenji Watanabe, Japan

    10:30 - 11:00 • Sessions Break

DAY 2   **(Room: Genève)**

SESSION 8   **Emerging Technologies**

Saturday, April 27   **Session Chair(s): Lorena Olmos Pineda, Mexico and Jorge Gil Tejeda, Mexico**

11:00 - 12:30 CET

Retrospective Temporal Perception with Virtual Products in Local Environments
    Lorena Olmos Pineda, Jorge Gil Tejeda, Mexico

Exploration of Patterns in Emotional Response and Retrospective Cognitive Load during Interaction with a Virtual Product
    Jorge Gil Tejeda, Lorena Olmos Pineda, Mexico

Digital creativity and problem-solving in higher engineering education: Developing an e-course using the educational affordances of STEAM methodology
    Foteini Paraskeva, Eleni Neofotistou, Greece

Design Methodology for Product Designers in the Context of Domestic 3D-Printing
    Zuk Turbovich, Israel

Human Drivers and Automated Vehicles team up for the better and the worse: a framework for the analysis of future accidents
    Henri Chajmowicz, Pierre Van Elslande, Laura Bigi, Philippe Lesire, Jean Baptiste Haué, Cyril Chauvel, Stéphane Buffat, France

Assessment Type Preferences in Informatics Engineering: before, during, and after the pandemic
    Anabela Gomes, Cristina Chuva, Portugal

DAY 2	(Room: Bern)
SESSION 9	**Human-centered Design II**
Saturday, April 27	**Session Chair(s): Ana Colim, Portugal and Sarah Alhouli, United Kingdom**
11:00 - 12:30 CET	Enhancing Worker Efficiency and Reducing Cognitive Workload Through Assistive Assembly: A Proof-of-Concept André Cardoso, Estela Bicho, Ana Braga, Carla Alves, Luís Louro, Duarte Fernandes, Pedro Arezes, Ana Colim, Portugal
	Designing a Positive Initial Experience with a Companion Pet Robot for Older Adults in Kuwait Sarah Alhouli, Nora Almania, Deepak Sahoo, United Kingdom
	APPEND: A Blockchain-Based Model of Digital Product Passport for Furniture Industry Fisnik Dalipi, Arianit Kurti, Mexhid Ferati, Sweden
	Vibration Discomfort of Hand-Arm Vibration influenced by Energy Content, Frequency, Waveform and Exposure Duration Diana Fotler, Klara Lorenz, Sven Matthiesen, Germany
	Flight Simulation In Geography Teaching: Experience Reports In Two Scenarios Christiano Bittencourt Machado, Brazil
	A cross-cultural contextual study of Wong Kar-wai's films driven by online reviews Hanzhang Dong, China
	End of Day 2 Technical Sessions

welcome
TO SWITZERLAND

Poster Demonstrations

Poster Demonstration Session

Friday-Saturday, April 26-27 [10:30 - 14:00]

A-1 A framework for assessing and enhancing social and spatial presence in mediated communication to support remote collaboration
Liv Ziegfeld, Maarten Michel, Ivo Stuldreher, Netherlands

A-2 Designing a User-Centred Team Role Testing APP: Revealing Team Dynamics Through Visual Analysis
Xinlei Zhao, Gail Hopkins, United Kingdom

A-3 Dual Particle Filtering of Intelligent Driver Model Parameters for Indirect Detection of Driving Anomalies
Hironori Suzuki, Ryuya Seki, Japan

A-4 ReActIn: Infusing Human Feedback into Intermediate Prompting Steps of Large Language Model
Manuel Delaflor Rodrguez, Carlos Toxtli, Claire Gendron, Wangfan Li, Cecilia Delgado Solorzano, United States

A-5 Examining users' acceptance of an e-cargo bike sharing system – results from a living lab study
Vincent Joura, Isabel Kreißig, Tina Morgenstern, Maria Kreußlein, Dorothea Liehr, Jim Gerschler, Robin Vrignaud, Jenny Köckritz, Bastian Pfleging, Germany

A-6 Appearance-based gaze estimation as an objective tool to assess social presence during immersive mediated communication
Linsey Roijendijk, Ivo Stuldreher, Maarten Michel, Alexander Toet, Netherlands

A-7 Expanding the Horizon of Learning Applications: A Study on the Versatility of Prompting Architectures in Large Language Models
Cecilia Delgado Solorzano, Carlos Toxtli, United States

A-8 Artificial Intelligence-Derived Clinical Reports For Multidisciplinary Health Education: A Preliminary Approach
Christiano Bittencourt Machado, Redha Taiar, Brazil

A-9 Assessing the Alignment of AI-Generated Evaluations with Human Judgment: A Case Study in a Teen Entrepreneurship Pitch Competition.
Shreya Rao, United States

A-10 Unpacking Human-AI Interaction in Safety- Critical Industries
Tita Alissa Bach, Norway

A-11 User Requirements for Automated Vehicles in Case of a System Failure
Lotte Wagner - Douglas, Thomas Lennartz, Stefan Ladwig, Germany

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Thank you for
Joining us in Lausanne!

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Conference Series

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