



2025 **IHIET** International

**14th International Conference on
Human Interaction &
Emerging Technologies:
Future Systems and
Artificial Intelligence
(IHIET-FS 2025)**

June 10-12, 2025

**School of Architecture, Computing &
Engineering (ACE)**

**University of East London
London, United Kingdom**

Final Program

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IHIET-FS 2025

Conference Reception

TUESDAY JUNE 10, 2025 - 18:00 - 22:00

**RECEPTION LOCATION: FREMANTLE AT CROWNE PLAZA LONDON DOCKLANDS
ROYAL VICTORIA DOCK, WESTERN GATEWAY, LONDON E16 1AL, UNITED KINGDOM**
(Dress is business casual, Conference Registered Participants, Photo ID required)

Conference Organization

Honorary Conference Chairs:

Andrew Arewa, University of East London, United Kingdom
Seyed Ali Ghorashi, University of East London, United Kingdom

Scientific and Technical Session: June 11 - 12, 2025

Location: Royal Dock Sustainability Centre (RDSC), University of East London (UEL), Faculty of Architecture, Computing and Engineering (ACE)
Address: Dockland Campus, University Way, London, E16 2RD,
United Kingdom

CONFERENCE ADMINISTRATOR:

ADMIN@IHIET-FS.ORG

CONFERENCE SUPPORT:

SUPPORT@IHIET.ORG

Scientific Tracks

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



Conference at a Glance

Scientific and Technical Session: Wednesday – Thursday, June 11 - 12, 2025
Location: Royal Dock Sustainability Centre (RDSC) at University of East London
Faculty of Architecture, Computing and Engineering (ACE)
Address: Dockland Campus, University Way, London, E16 2RD,
United Kingdom

Wednesday - Thursday, June 11 - 12, 2025

#	SESSION TITLE	ROOM	TRACK
Day 1: Wednesday, June 11 - Session Time: 9:00 - 10:00 (GMT+1)			
	Opening Session: The Metavethics of Care: Ethics, Integrity, and AI in the Healthcare	Room 1	All
10:00 - 10:30 • Sessions Break			
Day 1: Wednesday, June 11 - Session Time: 10:30 - 12:00 (GMT+1)			
1	Human-Technology and Future of Work I	Room 1	IHIET 4
2	Artificial Intelligence, Simulation and Intelligent Design	Room 2	IHIET 2
12:00 - 12:30 • Sessions Break			
Day 1: Wednesday, June 11 - Session Time: 12:30 -14:00 (GMT+1)			
4	Applications in Medicine and Healthcare I	Room 1	IHIET 8
5	Human-Technology and Future of Work II	Room 2	IHIET 1
14:00 - 15:00 • Lunch Break			
Day 2: Thursday, June 12 - Session Time: 9:00 - 10:00 (GMT+1)			
6	Plenary Session: Empowering Migrant Care Workers through Emerging Technologies: Bridging Cultural and Digital Gaps in the Global Care Sector.	Room 1	All
10:00 - 10:30 • Sessions Break			
Day 2: Thursday, June 12 - Session Time: 10:30 - 12:00 (GMT+1)			
7	Applications in Medicine and Healthcare II	Room 1	IHIET 8
9	Emerging Technologies and Business Applications	Room 2	IHIET 1
12:00 - 13:00 • Lunch Break			



Detailed Program

DAY 1

SESSION

Opening Session
Room: 1



University of
East London

Wednesday, June 11 - 9:00 - 10:00 (GMT+1)

Welcome and Opening Remarks

Professor David B. Tann, Vice Provost (Technology) & Executive Dean of School Architecture, Computing and Engineering (ACE), University of East London, United Kingdom

Plenary Speech:

The Metavethics of Care: Ethics, Integrity, and AI in the Healthcare

Speaker: Dr. Matteo Zallio, Cambridge University

Plenary Summary: As AI-driven avatars, generative worlds, and real-time emotion recognition propel us into an immersive renaissance, the ethical design of virtual environments becomes especially critical in fields like healthcare. From virtual care spaces and therapeutic simulations to AI-assisted diagnostics in immersive settings, we must embed inclusive design, robust DEI frameworks, and sustainable principles to ensure these technologies serve all people equitably. In this session, Dr. Zallio will introduce the Metavethics framework, a convergence of AI ethics, accessibility, and integrity, with a focus on guiding businesses, healthcare innovators, and policymakers in creating transparent, human-centered, and ethically sound Metaverse experiences.



Speaker Bio: Dr. Matteo Zallio is an award-winning designer, researcher, and professor dedicated to making emerging technologies accessible and inclusive for everyone. With unique experience helping businesses transform challenges into opportunities, he specializes in researching and developing human-centric technologies. Matteo is an Assistant Professor at the University of Cambridge, founder of the Metavethics Institute, and an Adjunct Faculty Member at Dublin City University. Previously,

he was a Fulbright Research Fellow at Stanford University and an A. Graves Research Fellow at Technological University Dublin. Matteo has also founded a start-up, worked for leading S&P 500 tech companies, including Autodesk and Amazon, and authored several books on design and technology

Wednesday, June 11, 2025 10:30 - 12:00 Technical Sessions	
DAY 1	Track: IHiet 4 Room: 1
SESSION 1	Human-Technology and Future of Work I
Wednesday, June 11	Session Chair(s): Lorraine Hagemann, Germany and Mark Tsagas, United Kingdom
10:30 - 12:00 (GMT+1)	Enabling the Transfer of Large Files Across Security Domains in a Multinational Environment Lorraine Hagemann, Philipp Klotz, Dennis Giebel, Germany
	Defining Autonomous Weapon Systems: A Conceptual Overview of Existing Definitory Attempts and the Effectiveness of Human Oversight Mark Tsagas, United Kingdom
	Exploring the Effect of Wearable Digital Devices (WDDs) on Adverse Occupational Health and Safety Practices of High-Risk Workers Oluwafemi Olatoye, Andrew Arewa, United Kingdom
	Evaluating the Effectiveness of Machine Learning Algorithms in Stock Price Prediction Across Different Time Frames Kenneth Y T Lim, Amy Low, Isabella Lim, Singapore
DAY 1	Track: IHiet 2 Room: 2
SESSION 2	Artificial Intelligence, Simulation and Intelligent Design
Wednesday, June 11	Session Chair(s): Seyed Ali Ghorashi and Mabel St Germaine, United Kingdom
10:30 - 12:00 (GMT+1)	AI Mobilisation Implications for Business Strategy - Importance of Data Analytics knowledge at Corporate-Level Mabel St Germaine, United Kingdom
	Transforming Elderly Care with Vision-Based Hand Gesture Recognition: A Deep Learning Framework Seyed Ali Ghorashi, Riazul Islam, United Kingdom
	AI Powered Diabetes prediction using Business Process Modelling Notation (BPMN) and Regression Models Aloysius Dr Edoh, Kenneth Fawole, Saeed Sharif, Nidharshanan Selliah, United Kingdom

	<p>Negotiated agency: the constant deliberation between the player's abilities and developer's permissions Thais Weiller, Mauricio Perin, Pedro Campos, Vanessa Cesário, Finland</p>
	12:00 - 12:30 • Coffee Break
DAY 1	Track: IHiet 8 Room: 1
SESSION 4	Applications in Medicine and Healthcare I
Wednesday, June 11	Session Chair(s): Vikraman Baskaran, United States Ahmed Elgebaly, United Kingdom
12:30 -14:00 (GMT+1)	<p>Architectural Analysis of RFID Integration in Medical Device Logistics: A Healthcare Information Systems Study Vikraman Baskaran, Denny Nguyen, United States</p>
	<p>Integrated U-Net-VGG-16 Architecture for Segmentation and Differential Diagnosis of Retinal OCT Images Ahmed Elgebaly, Rawad Hammad, Mohamed Imam, Hassan Abdalla, Ahmed Althaher, United Kingdom</p>
	<p>A Machine Learning-Powered Decision Tool to Predict Knee Arthroplasty in Patients with Osteoarthritis Ahmed Elgebaly, Atef Abdelrahman, Rawad Hammad, Mohamed Imam, Hassan Abdalla, Ahmed Althaher, United Kingdom</p>
	<p>Skin Cancer Diagnosis Using Machine Learning Techniques Bahlol Jabarkhail, Zainb Dawod, Saeed Sharif, United Kingdom</p>
	<p>Early Detection of Arthritis Using Convolutional Neural Networks and Explainable AI Binta Ade-olusile, Zainb Dawod, Saeed Sharif, United Kingdom</p>
DAY 1	Track: IHiet 1 Room: 2
SESSION 5	Human-Technology and Future of Work II
Wednesday, June 11	Session Chair(s): Lotte Wagner Douglas, Germany and Manuel Delaflor, United Kingdom
12:30 -14:00 (GMT+1)	<p>Enhancing the Viability of Battery-Electric Trucks in Long-Distance Freight Transport: Assessing the User Acceptance of Overhead Line Technology Lotte Wagner-Douglas, Emma Höfer, Regina Linke, Stefan Ladwig, Germany</p>

	<p>Cognitive Science and Information Technologies in Team Sports: Enhancing Performance and Safety Sebastien Tremblay, Carolane Croteau, Mireille Patry, Helen Hodgetts, Cindy Chamberland, Canada</p>
	<p>Artificial Intelligence as Self-Instantiated, Temporally Continuous, Disturbance-Driven Adaptive World-BUILDER Manuel Delaflor Rodriguez, Cecilia Delgado Solorzano, Carlos Toxtli, United Kingdom</p>
	<p>Knowledge Evolution and Scientific Breakthroughs triggered by AI Hallucinations - A Paradigm Shift? Anastasia-Maria Leventi-Peetz, Nikolaos Zacharis, Germany</p>
	<p>Talent Development and Retention in Industry 4.0: Strategy to Overcome Talent Challenges in VUCA Environments and Drive Digital Transformation with Agility Gabriela Guadalupe Reyes Zárate, Eduardo Arturo Garzón Garnica, Mexico</p>
	14:00 - 15:00 • Lunch Break
DAY 2	Track: IHiet 2 Room: 1
Plenary	Plenary Session: Empowering Migrant Care Workers through Emerging Technologies: Bridging Cultural and Digital Gaps in the Global Care Sector
Thursday, June 12	Speaker: Dr. Rashed Khan, University of Salford, United Kingdom
Schedule: 9:00 - 10:00 (GMT+1)	
<p>Speech Summary: In today's increasingly interconnected world, care systems across the globe are relying on internationally recruited care workers to meet growing demand. These workers often face multiple layers of adjustment: adapting to unfamiliar national cultures, navigating multicultural workplaces, and delivering care to service users from a wide range of cultural and linguistic backgrounds. This workshop explores how emerging technologies—such as AI-powered translation tools, mobile learning platforms, virtual reality, and digital wellbeing apps—can support migrant care workers in their journey toward cultural competence, digital literacy, and confident caregiving. Drawing on early research insights and global care trends, the session invites participants to share perspectives and co-create inclusive, tech-enabled strategies that enhance communication, dignity, and equity in care. Together, we will examine how technology can be leveraged to foster not only effective onboarding, but also the delivery of culturally responsive care in increasingly diverse care environments around the world.</p>	



Speaker Bio: Dr Mohammad Rashed Khan is a lecturer in International Business and Marketing at the University of Salford. Before joining Salford, he was a lecturer of Marketing at the Greater Manchester Business School, University of Bolton and Global Banking School, Manchester. He is a member of the Chartered Management Institute (CMI) and the Chartered Institute of Personnel and Development.

DAY 2

Track: IHiet 8 Room: 1

SESSION 7

Applications in Medicine and Healthcare II

**Thursday,
June 12**

**Session Chair(s): Saeed Sharif and Rawad Hammad,
United Kingdom**

**10:30 -
12:00 (GMT+1)**

Transforming Mental Health Assessment: Machine Learning for Early Detection and Personalized Care Among College Students

Madhav Theeng Tamang, Saeed Sharif, Seyed Ali Ghorashi, United Kingdom

Development Of AI-Powered Modelling To Predict Sports And Exercise-Related Tendinopathies In Youth Athletes (SMART Study)

Ahmed Elgebaly, Rawad Hammad, Mohamed Imam, Hassan Abdalla, Ahmed Althaher, United Kingdom

Hybrid Deep Learning Healthcare AI Framework for Real-Time Human Pose Estimation and Remote Patient Monitoring to Support TKR Physiotherapy

Hisham Abougrad, Manasa Yegamati, Mimi Mather, United Kingdom

Development of an Automated System for Cardiomyocyte Activity Using Computer Vision

Mohammed Noman Mohammed Arif, Qazi Nadeem, Prashant Ruchaya, Mustansar Ali Ghazanfar, United Kingdom

Vision Transformer-Based Image Captioning for the Visually Impaired

Qazi Nadeem, Indra Dewaji, Nawaz Khan, United Kingdom

DAY 2	Track: IHiet 1 Room: 2
SESSION 9	Emerging Technologies and Business Applications
Thursday, June 12	Session Chair(s): Olivier Malhomme, France and Shu-hsien Liao, Taiwan
10:30 - 12:00 (GMT+1)	<p>In-depth analysis of nuclear data flow using graph theory and the Technology, Organization, People Model through the application of betweenness centrality measure and community detection Luigui Salazar, Olivier Malhomme, Xianyun Zhuang, Robert Plana, Nicolas Bureau, France</p> <p>Social media and internet celebrity for social commerce intentional and behavioral recommendations Shu-Hsien Liao, Yao-Hsuan Yang, Taiwan</p> <p>SmartAI: Enhancing Scene Understanding by Combining Different AI Technologies Adnan Agbaria, Yael Dubinsky, Israel</p> <p>Application of Emerging NoSQL Databases in IoT and Cloud Computing Noel Bila, Jude Mwamba Nzambi Batubenga, Paul Bombo, Aloysius Adotey Edo, Pierre Motumbe Kasengedia, Eugene Mukendi Mbuyi, Fidele Balibuno Luganga, United Kingdom</p>
12:00 - 13:00 • Lunch Break	

NOTES:





Poster Demonstrations

SESSION A

Poster Demonstration Session

Wednesday-Thursday, June 11-12 [10:30 - 13:00]

A-1

Development of the stages of occupational stress of computer workers using neuro-physiological and neuro-psychological methods
Piia Tint, Viiru Tuulik, Estonia

A-2

Assessment of Upper Limb Functional Workspace through Inertial Measurement Units: a Pilot Study
Matteo Iurato, Ronny Stanzani, Mirko Job, Andres Gaggero, Igor Ingegnosi, Marco Testa, Italy

A-3

Developing Optimal Affordance Detection Technology Using Genetic Algorithm based on Posture Primitives on Atypical Surfaces
Yun Gil Lee, South Korea

A-4

Effectiveness of Knowledge Models for Visual Object Detection
Satoru Inoue, Mark Brown, Taro Kanno, Japan

A-5

A versatile data-governance framework leveraging cloud, blockchain and AI for enhanced decision making in UK higher education and beyond
James Jackson, United Kingdom

A-6

Implementing Intelligent Automation to improve business processes and operational efficiency in healthcare institutions
Julia Siderska, Aini Suraya, Poland

A-7

Transformer-Driven Recognition of Daily Activities from Smartphone In-Pocket IMU Streams
Hossein Shahverdi, Seyed Ali Ghorashi, United Kingdom

A-8

Adaptive Behavior Selection for Humanoid Robots via Offline and Online Reinforcement Learning using Individualized User Feedback
Nobuhito Manome, Ung-il Chung, Japan

A-9

Environments that promote a better workspace
Selene Margarita Vázquez Soto, Jessica Vianney García Vázquez, Migel Ángel Cruz Domínguez Hernández, Mexico

A-10

Social Status Commodity and Social Brain Wave: EEG Analysis Results
Sang Hee Kweon, South Korea

Call for Papers

Please join us for the

**16th International Conference on
Human Interaction and
Emerging Technologies
(IHIET-AI 2026)**

**Artificial Intelligence &
Future Applications**

April 23-25, 2026

**Universitat Politècnica de València
Valencia, Spain**

WWW.IHIET-AI.ORG

Call for Papers

Please join us for the

**14th International Conference on
Human Interaction and
Emerging Technologies
(IHIET 2025)**

August 25-27, 2025

**University of Vienna
Vienna, Austria**

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