

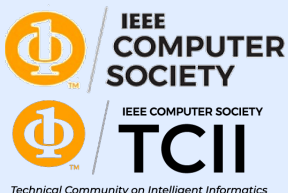


The 22nd IEEE/WIC International Conference on Web Intelligence and Intelligent Agent Technology

Venice, Italy, 26-29 October 2023
A Hybrid Conference with Online and Offline Modes



WI-IAT 2023 CONFERENCE PROGRAM



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Sponsors

Welcome Message

The 2023 IEEE/WIC International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT'23) serves as a premier international forum that brings together researchers and practitioners from diverse fields to present original research and to exchange innovative and practical experiences on web intelligence and intelligent agent technology.

WI-IAT'23 is a hybrid conference and will be held in Venice, Italy. It follows a long and successful series beginning in 2001. The conference debuted that year in Maebashi, Japan and has since taken place around the globe: Halifax, Canada (2003); Beijing, China (2004); Compiègne, France (2005); Hong Kong (2006); Silicon Valley, USA (2007); Sydney, Australia (2008); Milano, Italy (2009); Toronto, Canada (2010); Lyon, France (2011); Macau, China (2012); Atlanta, USA (2013); Warsaw, Poland (2014); and Singapore (2015). From 2016 to 2019, the conference was held under a different brand with a focus on Web Intelligence (WI'16 in Omaha, USA; WI'17 in Leipzig, Germany; WI'18 in Santiago de Chile; and, WI'19 in Thessaloniki, Greece). But 2020 saw a return to the original, much broader scope of the conference in order to renew its focus on the strong connection between Web Intelligence and Intelligent Agent Technology. WI-IAT'20 (online), WI-IAT'21 (hybrid), and WI-IAT'22 (hybrid - Niagara Falls, Canada) bear that classic brand.

The aim of the WI-IAT conference series is to achieve a multi-disciplinary balance between advances in theoretical research and methods typically associated with collective intelligence, data science, human-centric computing, knowledge management, network science, autonomous agents and multi-agent systems. The conference is committed to addressing research that both deepens the understanding of computational, logical, cognitive, physical, and social foundations of the future Web, and enables the development and application of intelligent technologies.

To that end, WI-IAT'23 features high-quality, original research papers and real-world applications in all the theoretical and applied areas that make up the field of Web Intelligence and Intelligent Agent Technology. The conference hosted five topical tracks on how intelligent technologies are impacting the Web of People, the Web of Data, the Web of Things, the Web of Trust, and the Web of Agents. Furthermore, this year's edition of WI-IAT proposes a special track on Fairness, Accountability, Transparency and Generative Content in AI.

Overall, WI-IAT'23 received 169 submissions, including 111 regular papers and 58 workshop papers, with over 400 authors from more than 40 countries across the world. After a rigorous peer review process undertaken by the Program Committee members and additional reviewers, 30 high quality papers have been accepted for publication in the proceedings as regular papers, marking an acceptance rate of 27%. Also included in the proceedings are 30 short papers. Alongside the main conference, there are jointly nine workshops, which include 41 pioneering and exploratory works. We congratulate the authors of these papers and sincerely thank the reviewers who provided invaluable feedback.

In addition to the main conference papers, we are thrilled to have four keynote speakers at the conference:

- “Wearable Data for Health: Are we there yet?” by Prof. Cecilia Mascolo, University of Cambridge, UK;

- “What is the Meaning of Superhuman Performance in Natural Language Processing?” by Prof. Roberto Navigli, Sapienza University of Rome, Italy;
- “Autonomous Development at the Individual and Collective Level” by Prof. Franco Zambonelli, University of Modena and Reggio Emilia, Italy; and,
- “Representation and Quantification of Uncertainty in Machine Learning” by Prof. Eyke Hüllermeier, Ludwig-Maximilians-Universität München, Germany.

The nine workshops included in the Technical Program, along with the organizing co-chairs, are the following:

- The 12th International Workshop on Intelligent Data Processing (IDP) organized by:
 - Paolo Mengoni, Hong Kong Baptist University, Hong Kong, China
 - Kristen (Yuanxi) Li, Hong Kong Baptist University, Hong Kong, China
- The 8th International Workshop on Application of Big Data for Computational Social Science (ABCSS2023) organized by:
 - Fujio Toriumi, The University of Tokyo, Japan
 - Isamu Okada, Soka University, Japan
 - Hiroki Takikawa, The University of Tokyo, Japan
 - Mitsuo Yoshida, University of Tsukuba, Japan
- The 8th International Workshop on Integrated Social CRM (iCRM 2023) organized by:
 - Rainer Alt, Leipzig University, Germany
 - Olaf Reinhold, University of Cooperative Education Saxony, Germany
 - Fabio Lobato, Federal University of Western Para, Brazil
- The International Workshop on Personalized QA and its Applications (PQAIA) organized by:
 - Yuanzhuo Wang, Chinese Academy of Sciences, China
 - Jingyuan Li, Beijing Technology and Business University, China
- The 4th International Workshop on AI for Social Good in the Connected World (AI4SG) organized by:
 - Jiming Liu, Hong Kong Baptist University, Hong Kong, China
 - Yang Liu, Hong Kong Baptist University, Hong Kong, China
 - Maria Fasli, University of Essex, UK
- The 1st International Workshop on Artificial Intelligence of Things for Healthcare organized by:
 - Guohun (Tony) Zhu, University of Queensland, Australia
 - Fei Yan, Tsinghua University, China
- GENUINE (modelinG, lEarning, and miniNg to coUNter INformation disordEr) organized by:
 - Gianni Costa, The National Research Council of Italy (CNR), Italy

- Riccardo Ortale, The National Research Council of Italy (CNR), Italy
- International Workshop on ChatGPT for Business Applications organized by:
 - Raj Gururajan, University of Southern Queensland, Australia
 - Revathi Venkataraman, SRM Institute of Science and Technology, India
 - Catherine Prentice, University of Southern Queensland, Australia
 - Vaishnavi Moorthy, SRM Institute of Science and Technology, India
- The International Workshop on Web Intelligence meets Brain Informatics (WImBI'23) organized by:
 - Jianzuo Yan, Beijing University of Technology, China
 - Jiajin Huang, Beijing University of Technology, China
 - Jianhui Chen, Beijing University of Technology, China

It is impossible to organize a first-class conference without the support and expertise of many outstanding researchers, leaders, volunteers, and sponsors. We acknowledge the time and effort dedicated by the members of the WI-IAT'23 Program Committee. They assured the success and academic integrity of the conference. We would like to thank the keynote speakers, invited speakers, and workshop organizers, who selflessly dedicated their time, knowledge, and expertise to WI-IAT'23 and helped prepare an excellent Technical Program. We also thank the sponsors of WI-IAT'23: the Institute of Electrical and Electronics Engineers (IEEE), the IEEE Computer Society, the Web Intelligence Consortium (WIC), the Ca' Foscari University of Venice, and IOS Press.

Finally, we extend our gratitude to the members of the Organizing Committee:

- Local Organizing Chair: Cristiana Fiandra (The Office, Italy);
- Workshop and Special Session Chairs: Marco Viviani (University of Milano-Bicocca, Italy) and Xujuan Zhou (University of Southern Queensland, Australia);
- Publicity Chairs: Hongzhi Kuai (Maebashi Institute of Technology, Japan) and Thanveer Shaik (University of Southern Queensland, Australia); and,
- Web and CyberChair Master: Hongzhi Kuai (Maebashi Institute of Technology, Japan).

Yours sincerely,

General Co-Chair Salvatore Orlando, Ca' Foscari University of Venice, Italy

General Co-Chair, Gabriella Pasi, University of Milano-Bicocca, Italy

Program Committee Co-Chair, Sebastian Bruch, Pinecone, USA

Program Committee Co-Chair, Claudio Lucchese, Ca' Foscari University of Venice, Italy

Program Committee Co-Chair, Xiaohui Tao, University of Southern Queensland, Australia

Organizing Committee

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Italy

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Japan

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University of Southern Queensland
Australia

Web & CyberChair Master

HONGZHI KUAI
Maebashi Institute of Technology
Japan

Conference Theme and Topics

Main Conference Theme

The theme of the WI-IAT '23 is
“**WEB INTELLIGENCE = AI IN THE CONNECTED WORLD**”.

Areas and Topics

- Track 1: Web of People
- Track 2: Web of Trust
- Track 3: Web of Things
- Track 4: Web of Data
- Track 5: Web of Agents
- Special Track: Fairness, Accountability, Transparency and Generative Content in AI

Program at a Glance

Workshops

Thursday, October 26, 2023

- Workshops (Online mode only) -

Zoom Links	
Zoom 1	https://unive.zoom.us/j/89629539200
Zoom 2	https://unive.zoom.us/j/82873625325
Zoom 3	https://unive.zoom.us/j/83144683003

Time (CEST)	Duration	Virtual Room I [Zoom 1]	Virtual Room II [Zoom 2]	Virtual Room III [Zoom 3]
9:00	3:30	The 12th International Workshop on Intelligent Data Processing (IDP)	Web Intelligence meets Brain Informatics	The 4th International Workshop on AI for Social Good in the Connected World
12:30	1:00	Lunch Break		
13:30	2:00	Personalized QA and its applications (PQAIA)	International Workshop on ChatGPT for Business Applications	
15:30	1:00	GENUINE (modelinG, IEarning, and miniNg to coUnter INformation disordEr)	The 8th International Workshop on Integrated Social CRM (iCRM 2023)	The 8th International Workshop on Application of Big Data for Computational Social Science (ABCSS2023)
16:30	1:00	The 1st International Workshop on Artificial Intelligence of Things for Healthcare		

Main Conference

Friday, October 27, 2023
- Main Conference (Hybrid mode) -

Zoom Links	
Zoom 1	https://unive.zoom.us/j/89629539200

Time (CEST)	Duration	Room "Guido Cazzavillan" [Zoom 1]
8:30		Registration Desk Opens
9:00	0:30	Welcome & Opening
9:30	1:00	Keynote (Online): "Representation and Quantification of Uncertainty in Machine Learning" by Prof. Eyke Hüllermeier, Ludwig-Maximilians-Universität München, Germany,
10:30	0:30	Coffee break
11:00	1:30	Session A: "Web of Trust, Web of Data, Special Track"
12:30	1:00	Lunch
13:30	1:30	Session B: "Web of People, Web of Agents"
15:00	0:30	Coffee break
15:30	1:15	Panel "Generative AI: potentials and limitations", Chairs: Gabriella Pasi & Ning Zhong
18:15		<i>Drink & Food at San Giobbe Bar/Restaurant</i> Inclusion & Diversity Reception @ WI-IAT'23 An event aiming to foster social and professional connections among WI-IAT'23 conference attendees, in particular with under-represented groups of researchers and scientists participating in WI-IAT'23. <i>Sponsored by the IEEE Technical Committee of Intelligent Informatics (TCII)</i>

Saturday, October 28, 2023
- Main Conference (Hybrid mode) -

Zoom Links	
Zoom 1	https://unive.zoom.us/j/89629539200
Zoom 2	https://unive.zoom.us/j/82873625325
Zoom 3	https://unive.zoom.us/j/83144683003

Time (CEST)	Duration	Room "Guido Cazzavillan" [Zoom 1]	Room 9A [Zoom 2]	Room 10A [Zoom 3]
9:00		Registration Desk Opens		
9:30	1:00	Room "Guido Cazzavillan" [Zoom 1] Keynote: "What is the Meaning of Superhuman Performance in Natural Language Processing?" by Prof. Roberto Navigli, Sapienza University of Rome, Italy		
10:30	0:30	Coffee break		
11:00	1:30	Session A: "Web of Data"	Session B: "Web of People"	Session C: "Web of Agents"
12:30	1:00	Lunch		
13:30	1:00	Room "Guido Cazzavillan" [Zoom 1] Keynote: "Wearable Data for Health: Are we there yet?" by Prof. Cecilia Mascolo, University of Cambridge,		
14:30	0:30	Coffee break		
15:00	1:30	Session D: "Web of Data"	Session E: "Web of People"	Session F: "Special Track"
16:30	0:30	Room "Guido Cazzavillan" [Zoom 1] Ceremony for Best Paper Awards, WIC Awards, Nomination of Web Intelligence Academy (WIA) Fellows Announcement of WI-IAT'24 conference		
20:00		Banquet at San Servolo Island		

Sunday, October 29, 2023
- Main Conference (Hybrid mode) -

Zoom Links	
Zoom 1	https://unive.zoom.us/j/89629539200
Zoom 2	https://unive.zoom.us/j/82873625325
Zoom 3	https://unive.zoom.us/j/83144683003

Time (CET)	Duration	Room "Guido Cazzavillan" [Zoom 1]	Room 9A [Zoom 2]	Room 10A [Zoom 3]
9:00		Registration Desk Opens		
9:30	1:00	Room "Guido Cazzavillan" [Zoom 1] Keynote: "Autonomous Development at the Individual and Collective Level" by Prof. Franco Zambonelli, University of Modena and Reggio Emilia, Italy		
10:30	0:30	Coffee break		
11:00	1:30	Session A: "Web of Data"	Session B: "Web of People"	Session C: "Web of People, Web of Things"
12:30	0:30	Room "Guido Cazzavillan" [Zoom 1] Closing Remarks		

CEST: Central European Summer Time (UTC + 2 h, Daylight Saving Time)
CET: Central European Time (UTC + 1 h)
Use https://dateful.com/time-zone-converter to convert your timezone to Italy's timezone.
Warning! On the night of Saturday, October 28, we will switch from daylight saving time to standard time (from CEST to CET). Therefore, the times on Sunday are CET instead of CEST.

Directions to get to Conference's Venue and San Servolo Island

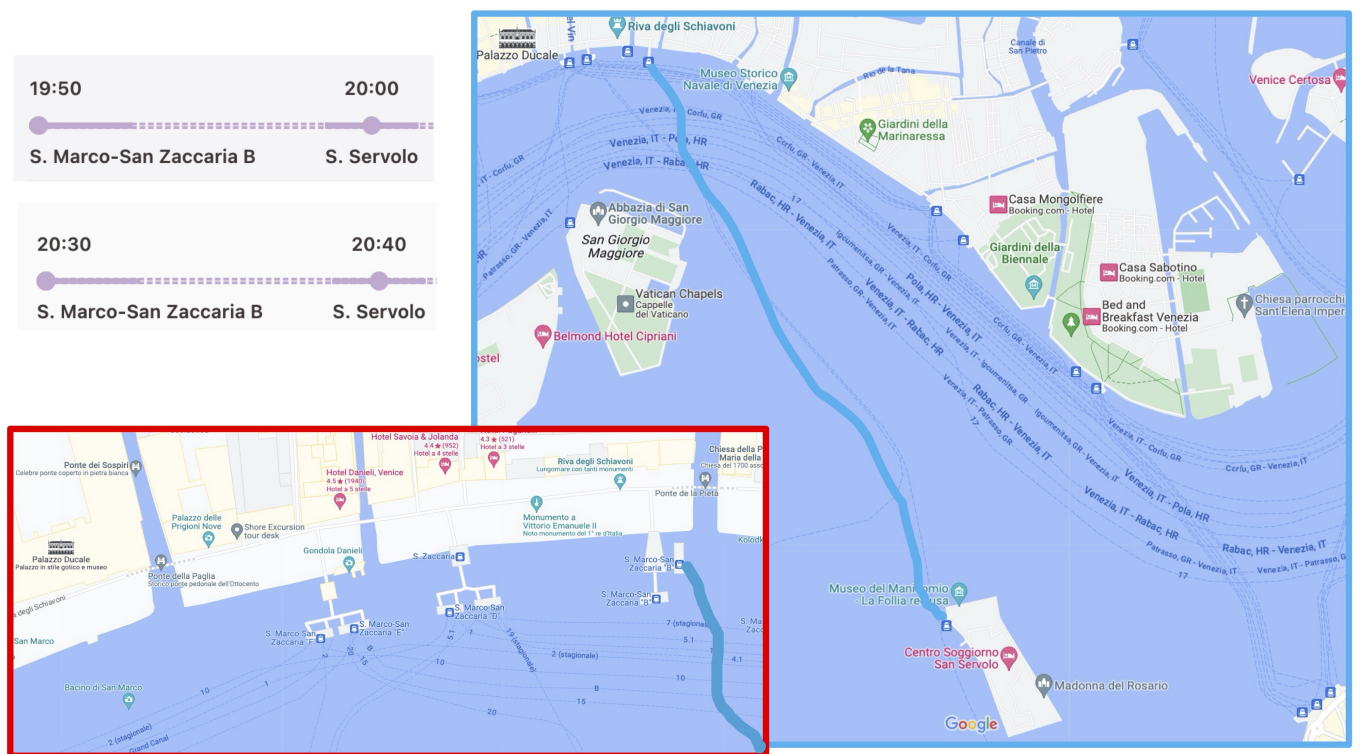
How to get to the Conference Venue (San Giobbe Campus)



The fastest way to get to the San Giobbe Campus of Ca' Foscari University is to walk along **Platform 1** of Santa Lucia railway station. You will arrive at *Solesin Bridge*, and through the secondary entrance you will enter San Giobbe. Close to *Solesin Bridge*, on the banks at the left arriving from the station, there is the "Grey Wine & Bistrot", where all the coffee breaks, lunches, and welcome reception will be held.

If you want to get to the campus from the main entrance, you can first get to *Guglie Bridge* (<https://rb.gy/hp0ez>), and then follow the banks of the canal until you reach the entrance.

How to get to San Servolo Island for the Conference Banquet



To get to San Servolo Island, take the waterbus (vaporetto) **number 20**. The vaporetto leaves at **19:50** from the stop **San Marco - San Zaccaria "B"**. The next bus ride leaves at 20:30, but in that way you would be a little late for the dinner.

Be careful of the "letter" that identifies the waterbus stop. On arriving from St Mark's Square along the bank, you have to cross two bridges. After the second bridge, you will find an equestrian statue and then the stop **San Marco - San Zaccaria "B"**.

WI-IAT'23 Invited Keynotes

Eyke Hüllermeier

*Chair of Artificial Intelligence and Machine Learning
Ludwig-Maximilians-Universität München, Germany*

REPRESENTATION AND QUANTIFICATION OF UNCERTAINTY IN MACHINE LEARNING

Abstract: Due to the steadily increasing relevance of machine learning for practical applications, many of which are coming with safety requirements, the notion of uncertainty has received increasing attention in machine learning research in the recent past. This talk will address questions regarding the representation and adequate handling of (predictive) uncertainty in (supervised) machine learning. A specific focus will be put on the distinction between two important types of uncertainty, often referred to as aleatoric and epistemic, and how to quantify these uncertainties in terms of suitable numerical measures. Roughly speaking, while aleatoric uncertainty is due to randomness inherent in the data generating process, epistemic uncertainty is caused by the learner's ignorance about the true underlying model.



Short Bio: Eyke Hüllermeier is a full professor at the Institute of Informatics at LMU Munich, Germany, where he heads the Chair of Artificial Intelligence and Machine Learning. He studied mathematics and business computing, received his PhD in computer science from Paderborn University in 1997, and a Habilitation degree in 2002. Prior to joining LMU, he held professorships at several other German universities (Dortmund, Magdeburg, Marburg, Paderborn) and spent two years as a Marie Curie fellow at the IRIT in Toulouse (France). His research interests are centered around methods and theoretical foundations of artificial intelligence, with a specific focus on machine learning, preference modeling, and reasoning under uncertainty. Besides, he is interested in the application of AI methods in other disciplines, ranging from the natural sciences and engineering to the humanities and social sciences.

He has published more than 400 articles on related topics in top-tier journals and major international conferences, and several of his contributions have been recognized with scientific awards. Professor Hüllermeier serves on the editorial board of leading journals in AI and machine learning and is a regular member of the program committee of major AI conferences. Currently, he also serves as president of EuADS, the European Association for Data Science.

Time: Central European Summer Time (UTC/GMT +2) 09:30-10:30, Friday, 27 October 2023

Roberto Navigli

*Full Professor and Head of the Sapienza NLP Group,
Co-founder of Babelscape srl and BabelNet evangelist
Sapienza University of Rome, Italy*

WHAT IS THE MEANING OF SUPERHUMAN PERFORMANCE IN NATURAL LANGUAGE PROCESSING?



Abstract: Lately, Natural Language Processing (NLP) has impressed the general public with the introduction of generative AI systems based on pre-trained Large Language Models (LLM). The astonishing results of these systems have led researchers to repeatedly flaunt the achievement of "superhuman performance". Beyond the shared feelings and extraordinary achievements of LLMs in a large number of tasks, in this talk I will analyze the current landscape carefully and critically, highlighting both the low-hanging fruits and the exaggerations of enthusiasts and, consequently, the weaknesses and areas for improvement.

Short Bio: Roberto Navigli is Professor of Computer Science at the Sapienza University of Rome, where he leads the Sapienza NLP Group. He is the author of more than 200 publications on multilingual Natural Language Understanding. He received two prestigious ERC grants in AI on multilingual word sense disambiguation (2011-2016) and multilingual language-

and syntax-independent open-text unified representations (2017-2022), selected among the 15 projects (out of 10,000) through which the ERC transformed science. In 2015 he received the META prize for groundbreaking work in overcoming language barriers with BabelNet, a project highlighted in The Guardian and Time magazine and currently used by thousands of universities and research bodies. In 2017 and 2022 he received two Artificial Intelligence Journal prominent paper awards, respectively for BabelNet and NASARI. He is the co-founder of Babelscape, a successful company which enables Natural Language Understanding in dozens of languages. He served as Associate Editor of the Artificial Intelligence Journal (2013-2020) and Program Chair of ACL-IJCNLP 2021. He will serve as General Chair of ACL 2025.

Time: Central European Summer Time (UTC/GMT +2) 09:30-10:30, Saturday, 28 October 2023

Cecilia Mascolo

*Co-director of Centre for Mobile, Wearable Systems and Augmented Intelligence,
Fellow of Jesus College University of Cambridge, UK*

WEARABLE DATA FOR HEALTH: ARE WE THERE YET?



Abstract: Wearable devices are becoming pervasive in our lives, from smart watches measuring our physiology to wearables for the ear accompanying us in every run or virtual meeting.

In this talk I will discuss where commercial systems have gotten to today and highlight the open challenges that these technologies still face before they can be trusted health measurement proxies. Namely, the ability to work in the wild and to cope with the variability of uses; the trade offs that we need to consider with respect to the sensitivity of the data and the use of constrained on device resources; the uncertainty of the prediction over the data which may hamper the trust we put in the accuracy prediction. I will use examples from my team's ongoing

research on audio based machine learning for health, on-device machine learning, "hearable" sensing and uncertainty estimation for health applications.

Short Bio: Cecilia Mascolo is a Full Professor of Mobile Systems in the Department of Computer Science and Technology, University of Cambridge, UK. She is director of the Centre for Mobile, Wearable System and Augmented Intelligence. She is also a Fellow of Jesus College Cambridge and the recipient of an ERC Advanced Research Grant. Prior joining Cambridge in 2008, she was a faculty member in the Department of Computer Science at University College London. She holds a PhD from the University of Bologna. Her research interests are in mobile systems and machine learning for mobile health. She has published in a number of top tier conferences and journals in the area and her investigator experience spans projects funded by Research Councils and industry. She has served as steering, organizing and programme committee member of mobile and sensor systems, data science and machine learning conferences. More details at www.cl.cam.ac.uk/users/cm542.

Time: Central European Summer Time (UTC/GMT +2) 13:30-14:30, Saturday, 28 October 2023

Franco Zambonelli

*ACM Distinguished Scientist, Member of the Academia Europaea,
Fellow of the Institute of Electrical and Electronics Engineering (IEEE),
Fellow of the Asia-Pacific Artificial Intelligence Association (AAIA)
University of Modena and Reggio Emilia, Italy*

AUTONOMOUS DEVELOPMENT AT THE INDIVIDUAL AND COLLECTIVE LEVEL



Abstract: The increasing complexity and unpredictability of many ICT scenarios let us envision that future systems will have to dynamically learn how to act and adapt to face evolving situations with little or no a priori knowledge, both at the level of individual components and at the collective level. In other words, such systems should become able to autonomously develop mental models of themselves and of their environment. This includes: learning models of own capabilities; learning how to act purposefully towards the achievement of specific goals; learning how to act in the presence of others, i.e., at the collective level; and eventually learn to communicate and cooperate. In this talk, I will introduce the overall vision of autonomous development in ICT systems and identify promising application domains. Then, I will overview the many research areas that

are contributing or can potentially contribute to the realization of the vision. Finally, I will present some of the activities of my research group, aimed at attacking the challenge of collective autonomous development.

Short Bio: Franco Zambonelli is full professor of Computer Science at the University of Modena and Reggio Emilia. He got his PhD in Computer Science and Engineering from the University of Bologna in 1997. His research interests include: pervasive computing, multi-agent systems, self-adaptive and self-organizing systems, with applications to healthcare and smart cities. He has published over 130 papers in peer-reviewed journals, and has been invited speaker at many conferences and workshops. He is in the editorial board of the ACM Transactions on Autonomous and Adaptive Systems, Springer-Nature Computer Science Journal, IEEE Society and Technology Magazine, the BCS Computer Journal, the Journal of Pervasive Computing and Communications. He has been scientific manager of the EU FP6 Project CASCADAS and coordinator of the EU FP7 Project SAPERE and of the PRIN 2017 Project Fluidware. He is ACM Distinguished Scientist, Member of the Academia Europaea, IEEE Fellow, and has been recipient of the 2018 IFAAMAS Influential Paper Award.

Time: Central European Time (UTC/GMT +1) 09:30-10:30, Sunday, 29 October 2023

WI-IAT'23 Panel

GENERATIVE AI: POTENTIALS AND LIMITATIONS

Chairs:

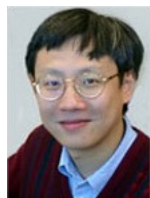
- *Gabriella Pasi*, University of Milano-Bicocca, Italy
- *Ning Zhong*, Maebashi Institute of Technology, Japan



Abstract: The rapid advancements in Generative AI, also referred to as AI Generated Content (AIGC), have unlocked a multitude of opportunities, from enhancing creative processes in content generation to addressing complex real-world challenges in industry, finance, culture, education, healthcare, and more. However, with these remarkable capabilities come important considerations regarding ethical, societal, and practical implications. The Panel on Generative AI will address issues on the diverse facets of Generative AI, by pointing out its capabilities, critical aspects and potentialities, as well as stimulating a debate on ethical and potential societal impacts.

Panelists:

- *Jonathan Chan*, King Mongkut's University of Technology Thonburi, Thailand
- *Jimmy Huang*, York University, Canada
- *Roberto Navigli*, Sapienza University of Rome, Italy
- *Marek Reformat*, University of Alberta, Canada
- *Xiaohui Tao*, University of Southern Queensland, Australia



Time: Central European Summer Time (UTC/GMT +2) 15:30-16:40, Friday, 27 October 2023

The 22nd IEEE/WIC International Conference on Web Intelligence and Intelligent Agent Technology

October 26-29, 2023, Venice, Italy

Friday, 27 October 2023

SESSION A: WEB OF TRUST, WEB OF DATA, SPECIAL TRACK

Chair: Pawan Lingras (Pawan.Lingras@smu.ca)

Room: Guido Cazzavillan

Central European Summer Time (UTC/GMT +2): 11:00-12:30

- 11:00-11:20** (Long) Unveiling the Potential: Harnessing Deep Metric Learning to Circumvent Video Streaming Encryption, *Arwin Gansekoele, Tycho Bot, Rob van der Mei, Sandjai Bhulai, Mark Hoogendoorn*
- 11:20-11:30** (Short) Web Content Filtering through knowledge distillation of Large Language Models, *Tamás Vörös, Sean Bergeron, Konstantin Berlin*
- 11:30-11:50** (Long) DeMaTO: An Ontology for Modeling Transactional Behavior in Decentralized Marketplaces, *Sogolsadat Mansouri, Vodelina Samatova, Nodirbek Korchiev, Kemafor Anyanwu*
- 11:50-12:00** (Short) GPT Struct Me: Probing GPT Models on Narrative Entity Extraction, *Hugo Sousa, Nuno Guimarães, Alípio Jorge, Ricardo Campos*
- 12:00-12:20** (Long) Estimating Link Confidence for Human-in-the-loop Table Annotation, *Roberto Avogadro, Michele Ciavotta, Flavio De Paoli, Matteo Palmonari, Dumitru Roman*
- 12:20-12:30** (Short) Predicting the Acceptability of Atomic Candidate OWL Class Axioms, *Ali Ballout, Celia da Costa Pereira, Andrea G. B. Tettamanzi*

The 22nd IEEE/WIC International Conference on Web Intelligence and Intelligent Agent Technology

October 26-29, 2023, Venice, Italy

Friday, 27 October 2023

SESSION B: WEB OF PEOPLE, WEB OF AGENTS

Chair: Rim Hantach (rim.hantach@gmail.com)

Room: Guido Cazzavillan

Central European Summer Time (UTC/GMT +2): 13:30-15:00

- 13:30-13:50** (Long) proBE - A BERTweet-Attentive Prototype Few-shot Model for Event Detection in OSN, *Sielvie Sharma, Muhammad Abulaish, Tanvir Ahmad*
- 13:50-14:00** (Short) Organized Event Participant Prediction Enhanced by Social Media Retweeting Data, *Yihong Zhang, Takahiro Hara*
- 14:00-14:10** (Short) An Approach for Detecting Dangerous Events from Online Text Using Transformers, *M.Luqman Jamil, Sebastião Pais, João Cordeiro, Gäel Dias, Nuno Pombo*
- 14:10-14:20** (Short) End-to-End Lip Reading in Romanian with Cross-Lingual Domain Adaptation and Lateral Inhibition, *Emilian-Claudiu Mănescu, Răzvan-Alexandru Smădu, Andrei-Marius Avram, Dumitru-Clementin Cercel, Florin Pop*
- 14:20-14:40** (Long) Learning and Identifying Human Behaviour Using Decision Trees, *Stanislav Sitanskiy, Laura Sebastia, Eva Onaindia*

The 22nd IEEE/WIC International Conference on Web Intelligence and Intelligent Agent Technology

October 26-29, 2023, Venice, Italy

Saturday, 28 October 2023

SESSION A: WEB OF DATA

Chair: Takafumi Nakanishi (takafumi.nakanishi@ds.musashino-u.ac.jp)

Room: Guido Cazzavillan

Central European Summer Time (UTC/GMT +2): 11:00-12:30

- 11:00-11:20** (Long) Few-shot and LightGCN learning for multi-label estimation of lesser-known tourist sites using tweets, *Landy Rajaonarivo, Tsunenori Mine, Yutaka Arakawa*
- 11:20-11:30** (Short) A Comparative Study of Water Temperature Forecasting Methods, *Devesh Bhogal, Yanchang Zhao, Reena Kapoor, Peter Toscas*
- 11:30-11:50** (Long) Into the Dynamics of Interpersonal Relationships from Diachronic Documents: Text-based Temporal Social Network Construction, *Chieh-Yu Lee, Christian Henriot, Hua-Yuan Hsueh, Jyi-Shane Liu, Hen-Hsen Huang*
- 11:50-12:00** (Short) ScrImmo: A Real-time Web Scraper Monitoring the Belgian Real Estate Market, *Félix Barzin, Gonzague Yernaux, Wim Vanhoof*
- 12:00-12:20** (Long) The Dark Side of the Language: Syntax-based Neural Networks rivaling Transformers in Definitely Unseen Sentences, *Dario Onorati, Leonardo Ranaldi, Aria Nourbakhsh, Arianna Patrizi, Elena Sofia Ruzzetti, Michele Mastromattei, Francesca Fallucchi, Fabio Massimo Zanzotto*

The 22nd IEEE/WIC International Conference on Web Intelligence and Intelligent Agent Technology

October 26-29, 2023, Venice, Italy

Saturday, 28 October 2023

SESSION B: WEB OF PEOPLE

Chair: Hugo Sousa (hugo.o.sousa@inesctec.pt)

Room: 9A

Central European Summer Time (UTC/GMT +2): 11:00-12:30

- 11:00-11:20** (Long) Emotion-based Analysis of Reviews using Knowledge Graph, *Marek Z. Reformat, Liang Tan, Giuseppe D'Aniello, Matteo Gaeta*
- 11:20-11:30** (Short) Key Factor Analysis of Influencer Popularity based on Adjective and Emotion in Twitter User Opinions, *Shuntaro Masuda, Toshihiko Yamasaki*
- 11:30-11:50** (Long) Multi-Perspective Sentiment Analysis on Life Events with Sentiment Cause Identification, *Keat Teng Swai, An-Zi Yen, Hen-Hsen Huang, Hsin-Hsi Chen*
- 11:50-12:00** (Short) Adverse Drug Reaction Classification in Social Media: A Multi-label Approach, *Julie Durand, Athena Stassopoulou, Ioannis Katakis*
- 12:00-12:20** (Long) Multi-behavior Recommendation with Action Pattern-aware Networks, *Chia-Ying Tsao, Chih-Ting Yeh, Jyh-Shing Jang, Yung-Yaw Chen, Chuan-Ju Wang*

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SESSION C: WEB OF AGENTS

Chair: Katsuhide Fujita (katfuji@cc.tuat.ac.jp)

Room: 10A

Central European Summer Time (UTC/GMT +2): 11:00-12:30

- 11:00-11:20** (Long) Dialogue Agents with Literary Character Personality Traits, *Junzhe Zhao, Huizhi Liang, Nicolay Rusnachenko*
- 11:20-11:30** (Short) P-TACOS: A Parallel Tabu Search Algorithm for Coalition Structure Generation, *Samriddhi Sarkar, Mariana Curado Malta, Tuhin Kumar Biswas, Dheeraj Kumar Buchala, Animesh Dutta*
- 11:30-11:50** (Long) Deep Deterministic Policy Gradient for Nested Parallel Negotiation, *Ryota Arakawa, Katsuhide Fujita*
- 11:50-12:00** (Short) Large-Scale Analysis of Rural-Urban Differences in Geographic Homophily, *Masatoshi Ushiba, Shiori Hironaka, Mitsuo Yoshida, Kyoji Umemura*
- 12:00-12:20** (Long) Proposing a new security game with reward and penalty, *Riku Yoshioka, Yuko Sakurai, Satoshi Oyama, Masato Shinoda*
- 12:20-12:30** (Short) Implementing BDI Continual Temporal Planning for Robotic Agents, *Alex Zanetti, Redi Vreto, Devis Dal Moro, Marco Robol, Marco Roveri, Paolo Giorgini*

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SESSION D: WEB OF DATA

Chair: Tsunenori Mine (mine@ait.kyushu-u.ac.jp)

Room: Guido Cazzavillan

Central European Summer Time (UTC/GMT +2): 15:00-16:30

- 15:00-15:20** (Long) DAWSON: Data Augmentation using Weak Supervision On Natural Language, *Tim de Jonge van Ellemeet, Flavius Frasinca, Sharon Gieske*
- 15:20-15:30** (Short) Effective Entity Disambiguation in Low-Resource Languages: A Study of Icelandic, *Valdimar Ágúst Eggertsson, Benedikt Geir Jóhannesson, Hafsteinn Einarsson, Hrafn Loftsson*
- 15:30-15:50** (Long) Summary in Action: A Trade-off between Effectiveness and Efficiency in Multidimensional Relevance Estimation, *Somnath Banerjee, Rishabh Upadhyay, Gabriella Pasi, Marco Viviani*
- 15:50-16:00** (Short) Multi-Perspective Learning to Rank to Support Children's Information Seeking in the Classroom, *Garrett Allen, Katherine Landau Wright, Jerry Alan Fails, Casey Kennington, Maria Soledad Pera*
- 16:00-16:10** (Short) Generative AI Frameworks for Web for Good: Food Pantry Information Seeking as An Example, *Huan-Yuan Chen*

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SESSION E: WEB OF PEOPLE

Chair: Mohamed Zohir Koufi (koufimedzohir@gmail.com)

Room: 9A

Central European Summer Time (UTC/GMT +2): 15:00-16:30

- 15:00-15:20** (Long) Stress Beats: a continuum of learning methods for personalized stress detection, *Vasiliki Parousidou, Sofia Yfantidou, Christina Karagianni, Athena Vakali*
- 15:20-15:30** (Short) Aspect-aware Multi-criteria Recommendation Model with Aspect Representation Learning, *Emrul Hasan, Cherie Ding*
- 15:30-15:50** (Long) Improving the Scalability of Collaborative Filtering Recommendation with Clustering Techniques, *Víctor Botti-Cebriá, Laura Sebastiá, David Monzó, Haritz Garcia*
- 15:50-16:00** (Short) Enriching Recommender Systems Results with Data about Sustainability and Ethical Standards of Brands, *Angelo Geninatti Cossatin, Noemi Mauro, Liliana Ardissono*
- 16:00-16:20** (Long) Candidate Set Sampling for Evaluating Top-N Recommendation, *Ngozi Ihemelandu, Michael D. Ekstrand*

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Saturday, 28 October 2023

SESSION F: SPECIAL TRACK

Chair: Marek Reformat (reformat@ualberta.ca)

Room: 10A

Central European Summer Time (UTC/GMT +2): 15:00-16:30

- 15:00-15:20** (Long) A Framework to Assess Knowledge Graphs Accountability, *Jennie Andersen, Sylvie Cazalens, Philippe Lamarre, Pierre Maillot*
- 15:20-15:30** (Short) FairGridSearch: A Framework to Compare Fairness-Enhancing Models, *Shih-Chi Ma, Tatiana Ermakova, Benjamin Fabian*
- 15:30-15:50** (Long) HGExplainer: Explainable Heterogeneous Graph Neural Network, *Grzegorz P. Mika, Amel Bouzeghoub, Katarzyna Węgrzyn-Wolska, Yessin M. Neggaz*
- 15:50-16:00** (Short) Measuring vagueness and subjectivity in texts: from symbolic to neural VAGO, *Benjamin Icard, Vincent Claveau, Ghislain Ateazing, Paul Égré*
- 16:00-16:20** (Long) In-Training Explainability Frameworks: A Method to Make Black-Box Machine Learning Models More Explainable, *Cagla Acun, Olfa Nasraoui*
- 16:20-16:30** (Short) Explainability of the Effects of Non-perturbative Data Protection in Supervised Classification, *Stefano Locci, Luigi Di Caro, Giovanni Livraga, Marco Viviani*

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SESSION A: WEB OF DATA

Chair: Emrul Hasan (e1hasan@torontomu.ca)

Room: Guido Cazzavillan

Central European Time (UTC/GMT +1): 11:00-12:30

- 11:00-11:20** (Long) Triple Extraction with Generative Technique for Constructing Weighted Knowledge Graph, *Mohammad Sahand Parniani, Marek Z. Reformat*
- 11:20-11:30** (Short) Toward Website Classification, *Mohamed Zohir Koufi, Zahia Guessoum, Amor Keziou, Itheri Yahiaoui, Chloé Martineau, Wandrille Domin*
- 11:30-11:50** (Long) Preserving Academic Integrity in Teaching with ChatGPT: Practical Strategies, *Muhammad Raheel Raza, Walayat Hussain*
- 11:50-12:00** (Short) DSGCN: A Degree Strength Graph Convolution Network for Identifying Influential Nodes in Complex Networks, *Srestha Sadhu, Anju Bhuiya, Animesh Dutta*
- 12:00-12:20** (Long) Multi-Context Incremental Reasoning over Data Streams, *Wafaa Mebrek, Amel Bouzeghoub*
- 12:20-12:30** (Short) Boosting Patch Correctness Checking via Combining Code-Edit Embeddings as Additional What-To-Change Information, *Chontipan Plengvittaya, Zee Hen Tang, Mi-Yen Yeh, Chih-Ya Shen*

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SESSION B: WEB OF PEOPLE

Chair: Julie Durand (julie.al.durand@gmail.com)

Room: 9A

Central European Time (UTC/GMT +1): 11:00-12:30

- 11:00-11:20** (Long) Commonsense injection in Conversational Systems: An adaptable framework for query expansion, *Guido Rocchietti, Ophir Frieder, Cristina Ioana Muntean, Franco Maria Nardini, Raffaele Perego*
- 11:20-11:30** (Short) PPPG-DialoGPT: A Prompt-based and Personality-aware Framework For Conversational Recommendation Systems, *Fahed Elourajini, Esma Aïmeur*
- 11:30-11:50** (Long) Rewriting Conversational Utterances with Instructed Large Language Models, *Elnara Galimzhanova, Cristina Ioana Muntean, Franco Maria Nardini, Raffaele Perego, Guido Rocchietti*
- 11:50-12:10** (Long) Guiding Attention Distribution Using Dynamic Participation in Multiagent Conversations, *Yoshimasa Ohmoto, Nina Makino*
- 12:10-12:20** (Short) Service Clustering with Graph Embedding of Heterogeneous Networks, *Yohei Murakami, Narifumi Oi, Koki Okubo*

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Sunday, 29 October 2023

SESSION C: WEB OF PEOPLE, WEB OF THINGS

Chair: Xiaohui Tao (Xiaohui.Tao@usq.edu.au)

Room: 10A

Central European Time (UTC/GMT +1): 11:00-12:30

- 11:00-11:20** (Long) Image-based Information Filtering to Compare and Select Items, *Zhongli Filippo Hu, Noemi Mauro, Liliana Ardissono*
- 11:20-11:30** (Short) A Method for Presenting Multiple Routes Considering Distance and Landscape Probability for Automotive Navigation Systems, *Takayasu Fushimi, Hayato Otaki*
- 11:30-11:50** (Long) Multi-channel Graph Neural Networks with Contrastive Learning for Social Recommendation, *Ping Liu*
- 11:50-12:10** (Long) Detecting Inactive Cyberwarriors from Online Forums, *Ruei-Yuan Wang, Hung-Hsuan Chen*
- 12:10-12:20** (Short) RescueRoute: Using Real-Time Traffic Data for Routing Emergency Services, *Marcel Heda, Josefine Sophie Busch, Abdul Aziz Sepa Seid Mayo, Tatiana Ermakova*

Workshop Sessions and Presentations

Thursday, 26 October 2023

THE 12TH INTERNATIONAL WORKSHOP ON INTELLIGENT DATA PROCESSING (IDP)

Chairs:

Paolo Mengoni (Hong Kong Baptist University)

Kristen (Yuanxi) Li (Hong Kong Baptist University)

Room: Virtual Room I

Central European Summer Time (UTC/GMT +2): 09:00-12:30

What do Airbnb users care about before, during and after the COVID-19? An analysis of online reviews,
Qian Liu, Paolo Mengoni

Predictive Behavior Modeling Through Web Graphs: Enhancing Next Page Prediction Using Dynamic Link
Repository, *Julian Marvin Jörs, Ernesto William De Luca*

Standardization of Music Loudness in the New Media Era, *Yihao Wang, Zhenbiao He*

RITA: a Phraseological dataset of CEFR Assignments and Exams for Italian as a Second Language,
Valentina Franzoni, Giulio Biondi, Yuanxi Li, Alfredo Milani, Valentino Santucci

Predicting Academic Performance of University Students Using Machine Learning: A Case Study in the
UK, *Titilayo Olabisi Soyoye, Tianhua Chen, Richard Hill, Keith McCabe*

Preliminary tasks of word embeddings comparison of unaligned audio and text data for the Kazakh lan-
guage, *Zhanibek Kozhirbayev, Talgat Islamgozhayev, Altynbek Sharipbay, Arailym Serkazyeva, Zhan-
dos Yessenbayev*

Achieving Interoperability in Energy Systems through Multi-Agent Systems and Semantic Web, *Miriam
Zawadi Muchika, Oudom Kem, Sarra Ben Abbes, Lynda Temal, Rim Hantach*

PERSONALIZED QA AND ITS APPLICATIONS (PQAIA)

Chairs: Yuanzhuo Wang, Chinese Academy of Sciences, China

Jingyuan Li, Beijing Technology and Business University, China

Room: Virtual Room I

Central European Summer Time (UTC/GMT +2): 13:30-15:30

MKGS: Maintains the original structure of Knowledge Graph, *Zheng yao, Cen Jianhe, Sun Shiqi, Yin
Dahu, Li Jingyuan, Wang Yuanzhuo*

Social Robot Detection on Short Video Platform Based on Random Forest and LDA Model, *Bo Li, Shiqi
Sun, Jingyuan Li, Qiong Wu, Yao Zheng, Haoliang Zhang*

Named Entity Recognition in Classical Chinese by Lexicon Enhancement, *Jianye Yu, Xiangyilan Feng, Jie Li, Jialin Liu*

GENUINE (MODELING, LEARNING, AND MINING TO COUNTER INFORMATION DISORDER)

Chairs:

Gianni Costa, The National Research Council of Italy (CNR), Italy
Riccardo Ortale, The National Research Council of Italy (CNR), Italy

Room: Virtual Room I

Central European Summer Time (UTC/GMT +2): 15:30-16:30

Avoiding information disorder in Disaster Recovery through Internet of Things, *Davide Macrì*

THE 1ST INTERNATIONAL WORKSHOP ON ARTIFICIAL INTELLIGENCE OF THINGS FOR HEALTHCARE

Chairs:

Guohun (Tony) Zhu, University of Queensland, Australia
Fei Yan, Tsinghua University, China

Room: Virtual Room I

Central European Summer Time (UTC/GMT +2): 16:30-17:30

Invited Talk: When Artificial Intelligence Meets the Internet of Things: Motivations, Challenges, and Applications, *Wei Xiang (Cisco)*

Vision-Based Automatic Groceries Tracking System - Smart Homes, *Divya Mereddy*

WEB INTELLIGENCE MEETS BRAIN INFORMATICS

Chairs

Jianzuo Yan, Beijing University of Technology, China
Jiajin Huang, Beijing University of Technology, China
Jianhui Chen, Beijing University of Technology, China

Room: Virtual Room II

Central European Summer Time (UTC/GMT +2): 09:00-12:30

A Parallel Gannet Optimization Algorithm for Image Segmentation, *Jeng-Shyang Pan, Yingying Wang, Shu-Chuan Chu, Ning Zhong*

Orthogonal Learning Rafflesia Optimization Algorithm with Quasi-affine Transformation Evolutionary and Its Application in Wireless Sensor Networks, *Jeng-Shyang Pan, Xin-Yi Zhang, Shu-Chuan Chu, Ning Zhong*

AutoBloom: AI-Based Classification of Cognitive Levels in Educational Content, *Thanveer Shaik, Xiaohui Tao, Lin Li, Yuan Sun, Yan Li, Ji Zhang, Christopher Dann*

Multi-Planar MRI-Based Classification of Alzheimer's Disease Using Tree-Based Machine Learning Algorithms, *Noushath Shaffi, Vimbi Viswan, Mufti Mahmud, Karthikeyan Subramanian, Faizal Hajamohidee*

NetFeatures-Transformer: Enhancing Brain Network Features to Classify Alzheimer's Disease, *Yu Cao, Hongzhi Kuai, Ning Zhong, Bixin Wang, Fengmei Fan, Jianzuo Yan,*

Enhancing Time Series Representation Learning with Spatiotemporal Dynamic Encoding, *Jinquan Ji, Jianzuo Yan, Yu Cao*

Joint Constrained Learning for Causal Event-Event Relation Extraction of Brain Connectome, *Lianfang Ma, Jianhui Chen, Yiyu Yao, Ning Zhong*

Mutual Information Based Method for fMRI Cognitive Feature Selection, *Xiaofei Zhang, Yang Yang, Ning Zhong*

The Neural Correlates of Frustration: A Meta-Analysis on Frustrative Nonreward and Stress, *by Yilin Meng, Yang Yang, Zhihui Yang, Yufeng Xing, Shuping Tan, Ning Zhong*

INTERNATIONAL WORKSHOP ON CHATGPT FOR BUSINESS APPLICATIONS

Chairs:

Raj Gururajan, University of Southern Queensland, Australia
Revathi Venkataraman, SRM Institute of Science and Technology, India

Catherine Prentice, University of Southern Queensland, Australia
Vaishnavi Moorthy, SRM Institute of Science and Technology, India

Room: Virtual Room II

Central European Summer Time (UTC/GMT +2): 13:30-15:30

An Inquirer-Responder Architecture Using LLMs: Emulating Virtual Hearing Q&A in Education, *Takafumi Nakanishi*

Student Perceptions of ChatGPT through an Expectancy Value Theory, *Prema Sankaran, Raksha Deshbhag, Krishna Durbha, Raj Gururajan, Xujuan Zhou*

Would Business Applications such as the FinTech benefit by ChatGPT? If so, where and how?, *Mohsin Asad Gill, Xujuan Zhou, Rohan Genrich, Raj Gururajan, Faisal Nabi*

THE 8TH INTERNATIONAL WORKSHOP ON INTEGRATED SOCIAL CRM (ICRM 2023)

Chairs: Rainer Alt, Leipzig University, Germany

Olaf Reinhold, University of Cooperative Education Saxony, Germany

Fabio Lobato, Federal University of Western Para, Brazil

Room: Virtual Room II

Central European Summer Time (UTC/GMT +2): 15:30-17:30

How Integrated Social CRM Effects Business Success: Learnings from a Literature Analysis, *Max Gräser, Connor Harris, Rainer Alt, Olaf Reinhold*

Market Overview in Social CRM: An analysis of job advertisements, *Pedro Henrique Costa Menezes, Adrielson Ferreira Justino, Barbara Adriana Pires Barata, Antonio Fernando, Lavareda Jacob Junior, Fábio Manoel França Lobato*

THE 4TH INTERNATIONAL WORKSHOP ON AI FOR SOCIAL GOOD IN THE CONNECTED WORLD

Chairs:

Jiming Liu, Hong Kong Baptist University, Hong Kong, China

Yang Liu, Hong Kong Baptist University, Hong Kong, China

Maria Fasli, University of Essex, UK

Room: Virtual Room III

Central European Summer Time (UTC/GMT +2): 09:00-12:30

- K-STTN: Knowledge-induced Spatio-Temporal Transformer Networks for Traffic Forecasting, *Youjie Wan, Jing Li, Qi Guo, Yue Peng, Benyun Shi*
- Vaccine Allocation Strategy for Addressing Vaccine-Induced Asymptomatic Infections, *Aibin Tang, Yineng Gao, Miao Liu, Yue Peng, Jiming Liu, Benyun Shi*
- Open Government Data (OGD) Framework for Sustainable Development, *Maria Fasli, Amani Yousef Owda, Tufail Abbasi, Majdi Owda, Lampros Stergioulas, Bhanu Neupane*
- An Exploratory Data Analysis and Visualizations of Underprivileged Communities Diabetes Dataset for Public Good, *Majdi Owda, Amani Yousef Owda, Maria Fasli*
- Embedding SDGs in Higher Education Curricula: A Case Study, *Sri Devi Ravana, Myat Noe Win, Nasa Zata Dina, Maria Fasli*
- Towards Detecting and Quantifying Identity-Based Polarization in Online Content: A Deep-Learning Approach, *Hima Thota, Melody Moh, Teng-Sheng Moh*
- THE 8TH INTERNATIONAL WORKSHOP ON APPLICATION OF BIG DATA FOR COMPUTATIONAL SOCIAL SCIENCE (ABCSS2023)**
- Chairs:**
- Fujio Toriumi, The University of Tokyo, Japan**
Isamu Okada, Soka University, Japan
Hiroki Takikawa, The University of Tokyo, Japan
Mitsuo Yoshida, University of Tsukuba, Japan
- Room: Virtual Room III**
Central European Summer Time (UTC/GMT +2): 13:30-17:30
- Stock Market Simulation by Micro-Macro GAN, *Yusuke Naritomi, Takanori Adachi*
- Characterizing the Behavior of Healthcare Experts Towards COVID-19 Vaccine on Twitter, *Tomoka Nakazato, Yuya Shibuya, Soichiro Takagi*
- Transitioning to the Digital Generation: An Examination of the GIGA Initiative (2019-) and Usage Patterns of Educational Smartphone Apps A Case Study of Anonymous Students' Learning in the COVID-19 Vortex, *Yasuko Kawahata*
- When Hub Seeding Works in Influencer Marketing, *Makoto Mizuno*
- Methods For Determining Emotion In Social Networks, *Banu Yergesh, Gulmira Bekmanova, Lyaila Kenzhina*
- RoBERTa Trained from Scratch on GPS Trajectory Data, *Shouji Fujimoto, Atushi Ishikawa, Takayuki Mizuno*
- Visual Insights: Enhancing Online News Maps with Relevant Illustrations, *Taichi Nakajima, Takayasu Fushimi*
- Analysis of Psychographic Indicators via LIWC and Their Correlation with CTR for Instagram Ads, *Kenjiro Inoue, Mitsuo Yoshida*
- STC+K: a Semi-global triangular and degree centrality method to identify influential spreaders in complex networks, *Srestha Sadhu, Amrita Namtirtha, Mariana Curado Malta, Animesh Dutta*

Sponsors

