



Conference Reports

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This section is compiled from reports of recent events sponsored or run in cooperation with ACM SIGAI. In general these reports were written and submitted by the conference organisers.

Advances in Artificial Intelligence: Theory and Practice

Kitakyushu, Japan, 07/19/22 - 07/22/22

<https://ieaaie2022.wordpress.com/>

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and e-Applications (ISeA 2022), Collective Intelligence in Social Media (CISM 2022), Multi-Agent Systems and Metaheuristics for Complex Problems (MASMCP 2022), and Intelligent Knowledge Engineering in Decision Making Systems (IKEDS 2022). All the submissions were peer-reviewed by at least three reviewers following a double-blind process. The Program Committee was composed of 74 researchers from 23 countries. The evaluation led to the acceptance of 67 full papers and 14 short papers from a total of 127 submissions published as a book as part of the Lecture Notes in a Computer Science book series (LNAI, volume 13343) in [Advances and Trends in Artificial Intelligence. Theory and Practices in Artificial Intelligence](#). Moreover, the selected best papers of the those presented are to be evaluated and later invited for a dedicated special issue on IEA/AIE 2022, to appear in the Applied Intelligence journal.

Overview

The 35th edition of the IEA/AIE2022 (International Conference on Industrial, Engineering, and Other Applications of Applied Intelligent Systems) was hosted in hybrid mode from July 19th to July 22nd, 2022, in Kitakyushu, Japan. IEA/AIE is an annual conference dedicated to advances related to the theory and applications of artificial intelligence that started in 1988, and has been hosted in over twenty countries. IEA/AIE 2022 was organized in cooperation with the American Association of Artificial Intelligence (AAAI), the ACM Special Interest Group on Artificial Intelligence (SIGAI) and has received the support of Springer, the International Society of Applied Intelligence (ISAI), Kitakyushu city, Universiti Teknologi Malaysia, i-SOMET Inc., and several other international Organizations.

The conference had a main track and five special sessions for emerging topics in applied intelligence, named Spatiotemporal Big Data Analytics (SBDA 2022), Intelligent Systems

The IEA/AIE2022 conference proceedings cover a wide relevant research and practices in Artificial Intelligence topics, some theoretical and others applied, to solve real-life problems from multiple domains. This includes industrial applications, health informatics, optimization, video and image processing, natural language processing, pattern recognition, clustering and classification, security applications, modeling, transportation and urban applications, social networks, robotics, games, and consumer applications. All papers were presented in hybrid mode (either online or offline) due to the COVID-19 pandemic. In this year 2022 round, we have a good number of participants coming from Germany, Spain and Romania, in addition to participants from Japan as shown in the photo of a banquet gathering in Kitakyushu.

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The Banquet event at the IEA/AIE2022.

Keynote Presentations

Two distinguished researchers were invited to give keynote talks.

In the talk “Improving Predictive Maintenance with Advanced Machine Learning,” provided by Prof. Sebastian Ventura, from the University of Cordoba (Spain), the speaker described the role that machine learning and big data mining algorithms can play in developing predictive maintenance strategies for manufacturing and other industrial applications. He presented a recent project as example, and discussed opportunities and challenges.

In “Build a Health Chain and Promote the Construction of an Active Health Service System,” Prof. Tao Wu from the Shanghai University of Medicine and Health Sciences (China) described the urgent need to use artificial intelligence, blockchain the Internet of Things and other cutting-edge technologies to build an integrated healthcare chain to improve the care of elderly people. Several innovative applications were described.

Best Paper Awards

Based on the evaluation of papers, a special committee analyzed the scores and content of the top 15 papers. And the selection criterion concluded the awards as below:

Best Student Paper award category which is supported by ACM SIGAI represented as a support from ACM SIGAI in registration fee payment on behalf of the student: The paper is: [Question Difficulty Estimation with Directional Modality Association in Video Question Answering](#), by the authors: Bong-Min Kim and

Seong-Bae Park. This was part of the support and collaboration from ACM SIGAI for the IEA/AIE2022.

In addition, the evaluation committee of the conference provided other categorical based awards reflected to theory, practices and presentation, as well as best session paper. These awards were sponsored by Springer and the IEA/AIE2022 conference organization. The recognition certificates for these awards are shown in Fig. 2, and as below:

- The “Best Application Paper” was awarded to [“A Generalized Inverted Dirichlet Predictive Model for Activity Recognition using Small Training Data”](#) by Jiaxun Guo and Manar Amayri and Wentao Fan and Nizar Bouguila.
- The “Best Theory Paper” award went to [“Evolution of Prioritized EL Ontologies”](#) by Rim Mohamed and Zied Loukil and Faiez Gargouri and Zied Bouraoui.
- The “Best Special Session Paper” was given to [“An Oriented Attention Model for Infectious Disease Cases Prediction”](#) by Peisong Zhang and Zhijin Wang and Guoqing Chao and Yaohui Huang and Jingwen Yan.
- The “Best Technical Presentation” award was given to [“Multi-Granular Large Scale Group Decision-Making Method with a new Consensus Measure Based on Clustering of Alternatives in Modifiable Scenarios”](#) by Jose Ramon Trillo and Ignacio Javier Perez and Enrique Herrera-Viedma and Juan Antonio Morente-Moliner and Francisco Javier Cabrerizo.

The 36th edition of the IEA/AIE conference will be held from July 19th to July 22nd 2023, in Shanghai, China. Details about the conference can be found at: <http://ieaaie2023.com/>. Continuing the tradition of IEA/AIE, submissions are invited on all topics related to applied intelligence and also theoretical contributions. This covers various emerging domains and innovative fields such as sensor networks, smart healthcare, drone navigation, robotics, intelligent manufacturing, and the Internet of Things.

22nd ACM International Conference on Intelligent Virtual Agents

Algarve and Lisbon, Portugal, 09/06/2022 - 09/09/2022

<https://ivaconference2022.ualg.pt/>

Carlos Martinho (INESC-ID and University of Lisbon, Portugal)

João Dias (IESC-ID and University of Algarve, Portugal)

The Intelligent Virtual Agents annual conference is the premier international event for interdisciplinary research on the design, development, application, and evaluation of Intelligent Virtual Agents (IVA) that exhibit human-like qualities and are capable of autonomous and socially intelligent interaction. The conference aims to showcase cutting-edge IVA technology as well as the underlying basic research supporting it. The conference welcomes students, academics, and industry professionals interested in presenting their work and enriching their understanding of the growing field of Intelligent Virtual Agents.

22nd ACM Intelligent Virtual Agents 2022

The 22nd International Conference on Intelligent Virtual Agents (IVA 2022) was hosted by the University of Algarve in Faro, Portugal, and INESC-ID Lisbon, from September 6 to 9, 2022.

IVA 2022 Topics

This year's special theme was "Developing, Authoring, and Deploying Multi-IVA Environments". Intelligent Virtual Agents, whether virtually or physically embodied, have an enormous potential in numerous application domains. But creating IVAs that can be reused and easily deployed in the most diverse application contexts by both experts and non-experts brings a whole new set of challenges.

IVA 2022 encouraged researchers and developers to present their findings and insights on these current challenges. Figure The proceedings can be found in the ACM digital library at the following internet address:

<https://dl.acm.org/doi/proceedings/10.1145/3514197>

IVA 2022 Participation

IVA 2022 received 79 submissions from all over the world: 21 high-quality papers were accepted as full papers for oral presentation (from 51 in this submission track, an acceptance rate of 41.2%) and 13 as extended abstracts for poster presentation. 10 system and applications demonstrations were showcased at the event. 12 PhD students presented their research work at the doctoral consortium. Figure 1 depicts the submissions by country of origin. 81 participants from all over the world registered for the event, from which 79 attended in person. 42 participants attended the tutorials and/or doctoral consortium.

IVA 2022 featured two renowned invited speakers: Ruth Aylett and Claudio Pinhanez. Ruth Aylett is a Professor of Computer Science at Heriot-Watt University and one of the founders of the IVA annual conference and has been working in the field of intelligent social agents for more than 20 years. She shared her experience and insights on the field in her keynote titled "Expressive behavior, social signals, and embodiment". Claudio Pinhanez is an expert in artificial intelligence, human-machine interaction and conversational systems and leads research in conversational intelligence in the laboratory of IBM research in Brazil since 1999. His keynote addressed the "New Challenges and Opportunities in Conversational Agents"

IVA 2022 Awards

For the first time, the Intelligent Virtual Agent conference distinguished a member of its community with the "Distinguished Service Award for Work of Excellence in Intelligent Virtual Agents". The award was attributed to Ruth Aylett, in recognition of her contributions to the field throughout her career.

IVA 2022 attributed its best paper award to: "Virtual Backlash: Nonverbal expression of dominance leads to less liking of dominant female versus male agents" by Janet Wessler, Tanja Schneeberger, Leon Christidis and Patrick Gebhard.

Finally, the winner of the "Gathering of Animated Lifelike Agents" (GALA), an annual competition/showcase of the latest animated lifelike agents created by university students,

academic and/or industrial research groups, was Alon Shoa with “A GPT Walks into a Bar”.

2nd International Conference on Image Processing and Vision Engineering

Online, 22/04/2022 - 24/04/2022

<https://improve.scitevents.org?y=2022>

IMPROVE 2022 was exceptionally held as an online event, due to covid-19, from April 22 to 24, 2022. It was sponsored by the Institute for Systems and Technologies of Information, Control and Communication (INSTICC).

IMPROVE 2022 was also organized in cooperation with the ACM Special Interest Group on Artificial Intelligence.

IMPROVE received 40 paper submissions from 19 countries. To evaluate each submission, a double-blind paper review was performed by the Program Committee. After a stringent selection process, 30% of the papers were published and presented as full papers.

In addition to the presentation sessions, IMPROVE 2022 included outstanding keynote lectures, which are relevant to today's lines of research and technical innovation. These talks were presented by internationally distinguished researchers, namely:

- Jiri Matas, Czech Technical University in Prague, Faculty of Electrical Engineering, Czech Republic: Robust Fitting in Computer Vision
- Michael Bronstein, Imperial College London, United Kingdom: Neural Diffusion PDEs, Differential Geometry, and Graph Neural Networks
- René Vidal, The Johns Hopkins University, United States: Semantic Information Pursuit
- Jana Kosecka, George Mason University, United States: Challenges and Opportunities in Autonomous Navigation

Additionally, a “Best Paper Award”, “Best Student Paper Award” and “Best Poster Award” were conferred during the conference. More information can be found at: <https://improve.scitevents.org/PreviousAwards.aspx>



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