ieee transactions on artificial intelligence

ieee transactions on artificial intelligence is a premier scholarly journal dedicated to advancing research and knowledge in the dynamic field of artificial intelligence (AI). This publication serves as a pivotal platform for researchers, practitioners, and academics who contribute groundbreaking studies, innovative methodologies, and comprehensive reviews related to AI technologies. Covering a broad spectrum of AI topics, the journal emphasizes both theoretical foundations and practical applications, thus fostering interdisciplinary collaboration and technological progress. With rigorous peer-review standards, the IEEE Transactions on Artificial Intelligence ensures the dissemination of high-quality content that influences AI development worldwide. This article explores the journal’s scope, publication process, impact, and its role in shaping the future of AI research. The following sections outline the critical aspects of IEEE Transactions on Artificial Intelligence, providing an in-depth understanding of its significance in the AI community.

Overview of IEEE Transactions on Artificial Intelligence

The IEEE Transactions on Artificial Intelligence is a highly respected journal published by the Institute of Electrical and Electronics Engineers (IEEE), a leading organization in technology and engineering fields. It focuses on the dissemination of original research articles, surveys, and technical notes that contribute to the comprehensive understanding of artificial intelligence. The journal aims to bridge the gap between theoretical AI research and its practical implementation across various industries. By providing a platform for cutting-edge AI studies, IEEE Transactions on Artificial Intelligence plays a crucial role in promoting innovation and fostering collaboration among researchers globally.

History and Evolution

Established to address the growing need for a dedicated AI research publication, IEEE Transactions on Artificial Intelligence has evolved alongside the rapid advancements in AI technologies. Since its inception, the journal has expanded its scope to include emerging AI subfields and interdisciplinary research, reflecting the evolving landscape of artificial intelligence. It continues to adapt to new trends and challenges, maintaining its reputation as a reliable source for state-of-the-art AI research.

Publisher and Editorial Board

The journal is published by IEEE, a globally recognized professional association known for setting standards in technology research and development. The editorial board comprises leading experts and scholars in artificial intelligence, ensuring rigorous peer review and the highest academic standards. Their expertise covers diverse AI domains, contributing to the journal’s comprehensive and authoritative content.

Scope and Research Areas Covered

IEEE Transactions on Artificial Intelligence encompasses a wide range of AI research topics, emphasizing both foundational theories and applied innovations. The journal welcomes contributions that advance understanding in machine learning, knowledge representation, natural language processing, robotics, computer vision, and other AI-related fields. Its inclusive scope encourages submissions that combine AI with other disciplines such as data science, cognitive computing, and human-computer interaction.

Core AI Disciplines

The journal focuses on key AI disciplines including but not limited to:

- Machine Learning and Deep Learning
- Knowledge Representation and Reasoning
- Natural Language Processing and Understanding
- Robotics and Autonomous Systems
- Computer Vision and Image Analysis
- Planning, Scheduling, and Optimization

Emerging and Interdisciplinary Topics

In addition to core areas, IEEE Transactions on Artificial Intelligence encourages research in emerging and interdisciplinary topics such as explainable AI, AI ethics, AI in healthcare, reinforcement learning, and AI for social good. It recognizes the importance of addressing ethical considerations and societal impacts alongside technical advancements.

Publication and Peer-Review Process

The publication process of IEEE Transactions on Artificial Intelligence is designed to uphold academic integrity and ensure the quality of published research. Submissions undergo a thorough peer-review process involving multiple experts who evaluate the originality, significance, and technical soundness of each manuscript. This rigorous scrutiny guarantees that only high-impact and well-substantiated studies are accepted for publication.

Manuscript Submission and Review

Authors submit their manuscripts through an online submission system, where initial checks for format and scope compliance are conducted. Subsequently, the editorial board assigns qualified reviewers with relevant expertise. The double-blind review process ensures impartial evaluation, providing constructive feedback to enhance the quality of submissions.

Publication Frequency and Article Types

IEEE Transactions on Artificial Intelligence publishes issues quarterly, featuring various article types including original research papers, survey articles, and technical notes. This diversity allows the journal to cover extensive research perspectives, from in-depth theoretical analysis to practical implementations and case studies.

Impact and Influence in the AI Community

IEEE Transactions on Artificial Intelligence holds a prominent position in the AI research landscape, influencing both academic and industrial advancements. Its high impact factor and citation rates reflect the journal’s authority and the relevance of its content. Researchers and practitioners frequently reference articles published in this journal to inform their work and stay abreast of new developments.

Contribution to AI Research Advancement

The journal contributes significantly to the progression of AI by disseminating pioneering research that addresses complex problems and introduces innovative approaches. It facilitates knowledge exchange among different AI subfields, fostering interdisciplinary collaboration and accelerating technological breakthroughs.

Role in Education and Industry

Beyond research, IEEE Transactions on Artificial Intelligence serves as an educational resource for graduate students, educators, and industry professionals. Its articles often inform curriculum development and guide practical AI applications in sectors such as finance, healthcare, manufacturing, and autonomous systems.

Access, Submission Guidelines, and Author Support

IEEE Transactions on Artificial Intelligence provides comprehensive support to authors and readers, ensuring accessibility and facilitating high-quality submissions. The journal offers detailed guidelines on manuscript preparation, ethical considerations, and data sharing to streamline the publication process.

Access and Availability

The journal is accessible through IEEE Xplore digital library, offering subscription-based and institutional access options. Some articles may also be available as open access, broadening the reach and impact of published research.

Author Resources and Guidelines

Authors benefit from extensive resources including formatting templates, ethical policies, and editorial assistance. Clear submission guidelines help maintain consistency and expedite the review process, enhancing the overall publication experience.

Benefits of Publishing in IEEE Transactions on Artificial Intelligence

- Wide visibility among AI researchers and practitioners worldwide
- Rigorous peer review ensuring high-quality publication
- Opportunities for interdisciplinary collaboration and networking
- Support for ethical and reproducible AI research
- Integration with IEEE’s global technological community

Frequently Asked Questions

What is the IEEE Transactions on Artificial Intelligence journal?

IEEE Transactions on Artificial Intelligence is a peer-reviewed scholarly journal published by the IEEE focusing on high-quality research articles in the field of artificial intelligence, including theory, algorithms, applications, and emerging topics.

What types of research articles does IEEE Transactions on Artificial Intelligence publish?

The journal publishes original research papers, review articles, and technical notes covering various AI subfields such as machine learning, natural language processing, computer vision, robotics, knowledge representation, and AI ethics.

How can researchers submit their work to IEEE Transactions on Artificial Intelligence?

Researchers can submit their manuscripts through the IEEE's online submission system, following the journal's formatting and submission guidelines available on the official IEEE Transactions on Artificial Intelligence webpage.

Is IEEE Transactions on Artificial Intelligence an open access journal?

IEEE Transactions on Artificial Intelligence offers a hybrid publishing model, allowing authors to choose between traditional subscription-based publishing or open access by paying an article processing charge.

What is the impact factor of IEEE Transactions on Artificial Intelligence?

The impact factor of IEEE Transactions on Artificial Intelligence varies annually and can be found on the journal's official website or indexing services like Journal Citation Reports; it is recognized as a reputable journal in the AI research community.

Are there special issues or thematic calls for papers in IEEE Transactions on Artificial Intelligence?

Yes, IEEE Transactions on Artificial Intelligence periodically publishes special issues focusing on emerging and trending topics in AI, inviting submissions through thematic calls announced on the journal's website and related IEEE platforms.

Additional Resources

1. *Artificial Intelligence: Foundations of Computational Agents*
This book provides a comprehensive introduction to the fundamental concepts and techniques of artificial intelligence. It covers topics such as search algorithms, knowledge representation, reasoning, and learning. The text is designed to build a solid foundation for understanding AI systems and their applications in various domains.

2. *Deep Learning*
Written by leading experts, this book delves into the principles and practices of deep learning, a subset of artificial intelligence. It explains neural networks, convolutional networks, sequence modeling, and generative models with clear examples and practical implementations. The book serves as both a theoretical and practical guide for researchers and practitioners.

3. *Machine Learning: A Probabilistic Perspective*
This book offers an in-depth exploration of machine learning from a probabilistic viewpoint. It covers Bayesian networks, graphical models, and inference techniques, emphasizing the role of uncertainty in AI systems. Readers gain a thorough understanding of how to design and analyze algorithms that learn from data.

4. *Reinforcement Learning: An Introduction*
Focused on the reinforcement learning paradigm, this book explains how agents can learn optimal behaviors through interaction with their environment. It covers key concepts like Markov decision processes, dynamic programming, and temporal-difference learning. The book is essential for those interested in autonomous systems and AI decision-making.

5. *Explainable Artificial Intelligence: Understanding, Visualizing and*

Interpreting Deep Learning Models
This text addresses the growing need for transparency in AI models by exploring methods to interpret and explain complex AI decisions. It discusses techniques for visualizing neural networks and making AI outputs understandable to humans. The book is crucial for researchers aiming to build trustworthy and accountable AI systems.

6. *Natural Language Processing with Deep Learning*
The book bridges natural language processing (NLP) and deep learning, presenting cutting-edge methods for text understanding and generation. It covers word embeddings, sequence-to-sequence models, and attention mechanisms. Practical examples demonstrate how AI can be applied to tasks like translation, summarization, and sentiment analysis.

7. *Probabilistic Graphical Models: Principles and Techniques*
This comprehensive guide explores the structure and algorithms behind probabilistic graphical models, which are widely used in AI for reasoning under uncertainty. It covers Bayesian networks, Markov networks, and inference algorithms. The book is a fundamental resource for developing AI systems that integrate complex probabilistic information.

8. *Artificial Intelligence for Robotics: Build intelligent robots that perform human tasks using AI techniques*
Focusing on robotics, this book explains how AI techniques can be applied to develop intelligent robotic systems. Topics include perception, planning, control, and learning for autonomous robots. It offers practical insights for engineers and researchers working at the intersection of AI and robotics.

9. *Ethics of Artificial Intelligence and Robotics*
This book explores the ethical considerations and societal impact of AI and robotics technologies. It discusses issues such as privacy, bias, accountability, and the future of work. The text encourages responsible development and deployment of AI systems in alignment with human values and legal frameworks.

Ieee Transactions On Artificial Intelligence

ieee transactions on artificial intelligence: Artificial Intelligence and Machine Learning Techniques in Engineering and Management Komaragiri Srinivasa Raju, Dasika Nagesh Kumar, 2025-05-21 The present book covers various facets of Artificial Intelligence, Machine Learning, and Fuzzy Logic. It includes a brief discussion on performance indicators, Classical and Advanced Machine Learning algorithms, Fuzzy logic-based modelling algorithms, Emerging Research Areas,

including Blockchain, recent ML techniques, Evolutionary Algorithms, Large Language Model (LLM)-based Generative AI, the Internet of Things, Big Data, Decision Support Systems, Taguchi design of experiments, data augmentation, and Cross-Validation, and representative case studies. The appendix covers representative AI tools, data sources, books, and journals on AI. The present book can support undergraduate, postgraduate, and Ph.D. students in Artificial Intelligence, Generative Artificial Intelligence, Machine Learning, Data Sciences, Soft Computing, and Fuzzy Logic in Engineering and Management and allied fields. The proposed book has immense value in the interdisciplinary and cross-disciplinary context.

ieee transactions on artificial intelligence: Advances in Deep Generative Models for Medical Artificial Intelligence Hazrat Ali, Mubashir Husain Rehmani, Zubair Shah, 2023-12-16 Generative Artificial Intelligence is rapidly advancing with many state-of-the-art performances on computer vision, speech processing, and natural language processing tasks. Generative adversarial networks and neural diffusion models can generate high-quality synthetic images of human faces, artworks, and coherent essays on different topics. Generative models are also transforming Medical Artificial Intelligence, given their potential to learn complex features from medical imaging and healthcare data. Hence, computer-aided diagnosis and healthcare are benefiting from Medical Artificial Intelligence and Generative Artificial Intelligence. This book presents the recent advances in generative models for Medical Artificial Intelligence. It covers many applications of generative models for medical image data, including volumetric medical image segmentation, data augmentation, MRI reconstruction, and modeling of spatiotemporal medical data. This book highlights the recent advancements in Generative Artificial Intelligence for medical and healthcare applications, using medical imaging and clinical and electronic health records data. Furthermore, the book comprehensively presents the concepts and applications of deep learning-based artificial intelligence methods, such as generative adversarial networks, convolutional neural networks, and vision transformers. It also presents a quantitative and qualitative analysis of data augmentation and synthesis performances of Generative Artificial Intelligence models. This book is the result of the collaborative efforts and hard work of many minds who contributed to it and illuminated the vast landscape of Medical Artificial Intelligence. The book is suitable for reading by computer science researchers, medical professionals, healthcare informatics, and medical imaging researchers interested in understanding the potential of artificial intelligence in healthcare. It serves as a compass for navigating the artificial intelligence-driven healthcare landscape.

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ieee transactions on artificial intelligence: Proceedings of the International Conference

on Artificial Intelligence and Cloud (ICAIC'25) , 2025-05-17 Dr.A.Bamini, Assistant Professor and Head, Department of Computer Applications, The Standard Fireworks Rajaratnam College for Women (Autonomous), Sivakasi, Tamil Nadu, India. Mrs.P.Muthulakshmi, Assistant Professor, Department of Computer Applications, The Standard Fireworks Rajaratnam College for Women (Autonomous), Sivakasi, Tamil Nadu, India. Mrs.V.Vanthana, Assistant Professor, Department of Computer Applications, The Standard Fireworks Rajaratnam College for Women (Autonomous), Sivakasi, Tamil Nadu, India.

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Siddhartha Bhattacharyya, Panagiotis Sarigiannidis, 2025-09-29 The “North East India AI Summit: Unravelling Trends (NEIAIS 2025)” served as a vibrant platform for the exchange of cutting-edge ideas and research in the field of Artificial Intelligence, with a strong emphasis on both foundational theo□ries and real-world applications. The summit brought together experts, researchers, and enthusiasts to explore critical areas including Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Smart Systems, IoT Security, Network Technology, and Artificial Intelligence in Healthcare and Biomedical Applications. Discussions also delved into emerging trends and computational techniques, highlighting the transformative potential of AI in addressing complex, real-world challenges. The conference received an overwhelming response, attracting more than 120 research paper submissions from various regions of India and abroad. After a rigorous review process, 55 high-quality papers were accepted, out of which over 44 papers were registered for presentation at the summit. By fostering interdisciplinary col□laboration and showcasing impactful innovations, NEIAIS 2025 aims to inspire sustained research, technological growth, and broader societal benefits.

ieee transactions on artificial intelligence: Visualization for Artificial Intelligence Shixia Liu, Weikai Yang, Junpeng Wang, Jun Yuan, 2024-12-21 This book explores how visualization provides an effective way of improving not only the interpretability but also the generalization capabilities of machine learning models. It shows how visualization can bridge the gap between complex models or algorithms and human understanding while also facilitating data curation and model refinement. Therefore, visualization for artificial intelligence (VIS4AI) has become an emerging area that combines interactive visualization with machine learning techniques to maximize their values. VIS4AI techniques focus on every phase of the machine learning life cycle, from data preprocessing to model development and deployment. These techniques are closely aligned with the well-established data and model pipelines in machine learning. In the data pipeline, they contribute to improving data quality and feature quality, including training data cleaning and feature engineering. In the model pipeline, they support (1) model development by focusing on model understanding, diagnosis, and steering; and (2) model deployment by enabling decision explanation, model performance monitoring, and model maintenance. This book provides a framework of VIS4AI and introduces the associated techniques in the two pipelines. It emphasizes the importance of interactive visualization in AI and presents various visualization techniques for different purposes. It also discusses the challenges and opportunities of VIS4AI and proposes several promising research topics for future work, such as improving training data using complementary modalities, online training diagnosis, fitting the dynamic nature of AI systems, and interactively pre-training and adapting foundation models. Overall, this book aims to serve as a resource for researchers and practitioners interested in both visualization and artificial intelligence.

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ieee transactions on artificial intelligence: Artificial Intelligence & Games Georgi Togeli, 2024-09-03 As has been pointed out by several industrial game AI developers the lack of behavioral modularity across games and in-game tasks is detrimental for the development of high quality AI [605, 171]. An increasingly popular method for ad-hoc behavior authoring that eliminates the modularity limitations of FSMs and BTs is the utility-based AI approach which can be used for the design of control and decision making systems in games [425, 557]. Following this approach, instances in the game get assigned a particular utility function that gives a value for the importance of the particular instance [10, 169]. For instance, the importance of an enemy being present at a particular distance or the importance of an agent’s health being low in this particular context. Given

the set of all utilities available to an agent and all the options it has, utility-based AI decides which is the most important option it should consider at this moment [426]. The utility-based approach is grounded in the utility theory of economics and is based on utility function design. The approach is similar to the design of membership functions in a fuzzy set. A utility can measure anything from observable objective data (e.g., enemy health) to subjective notions such as emotions, mood and threat. The various utilities about possible actions or decisions can be aggregated into linear or non-linear formulas and guide the agent to take decisions based on the aggregated utility. The utility values can be checked every n frames of the game. So while FSMs and BTs would examine one decision at a time, utility-based AI architectures

ieee transactions on artificial intelligence: Distributed Artificial Intelligence Satya Prakash Yadav, Dharmendra Prasad Mahato, Nguyen Thi Dieu Linh, 2020-12-18 Distributed Artificial Intelligence (DAI) came to existence as an approach for solving complex learning, planning, and decision-making problems. When we talk about decision making, there may be some meta-heuristic methods where the problem solving may resemble like operation research. But exactly, it is not related completely to management research. The text examines representing and using organizational knowledge in DAI systems, dynamics of computational ecosystems, and communication-free interactions among rational agents. This publication takes a look at conflict-resolution strategies for nonhierarchical distributed agents, constraint-directed negotiation of resource allocations, and plans for multiple agents. Topics included plan verification, generation, and execution, negotiation operators, representation, network management problem, and conflict-resolution paradigms. The manuscript elaborates on negotiating task decomposition and allocation using partial global planning and mechanisms for assessing nonlocal impact of local decisions in distributed planning. The book will attract researchers and practitioners who are working in management and computer science, and industry persons in need of a beginner to advanced understanding of the basic and advanced concepts.

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ieee transactions on artificial intelligence: Readings in Distributed Artificial Intelligence Alan H. Bond, Les Gasser, 2014-06-05 Most artificial intelligence research investigates intelligent behavior for a single agent--solving problems heuristically, understanding natural language, and so on. Distributed Artificial Intelligence (DAI) is concerned with coordinated intelligent behavior: intelligent agents coordinating their knowledge, skills, and plans to act or solve problems, working toward a single goal, or toward separate, individual goals that interact. DAI provides intellectual insights about organization, interaction, and problem solving among intelligent agents. This comprehensive collection of articles shows the breadth and depth of DAI research. The selected information is relevant to emerging DAI technologies as well as to practical problems in artificial intelligence, distributed computing systems, and human-computer interaction. Readings in Distributed Artificial Intelligence proposes a framework for understanding the problems and possibilities of DAI. It divides the study into three realms: the natural systems approach (emulating strategies and representations people use to coordinate their activities), the engineering/science perspective (building automated, coordinated problem solvers for specific applications), and a third, hybrid approach that is useful in analyzing and developing mixed collections of machines and human agents working together. The editors introduce the volume with an important survey of the motivations, research, and results of work in DAI. This historical and conceptual overview combines with chapter introductions to guide the reader through this fascinating field. A unique and extensive

bibliography is also provided.

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ieee transactions on artificial intelligence: Driving 5G Mobile Communications with Artificial Intelligence towards 6G Dragorad A. Milovanovic, Zoran S. Bojkovic, Tulsi Pawan Fowdur, 2023-04-06 Driving 5G Mobile Communications with Artificial Intelligence towards 6G presents current work and directions of continuous innovation and development in multimedia communications with a focus on services and users. The fifth generation of mobile wireless networks achieved the first deployment by 2020, completed the first phase of evolution in 2022, and started transition phase of 5G-Advanced toward the sixth generation. Perhaps one of the most important innovations brought by 5G is the platform-approach to connectivity, i.e., a single standard that can adapt to the heterogeneous connectivity requirements of vastly different use cases. 5G networks contain a list of different requirements, standardized technical specifications and a range of implementation options with spectral efficiency, latency, and reliability as primary performance metrics. Towards 6G, machine learning (ML) and artificial intelligence (AI) methods have recently proposed new approaches to modeling, designing, optimizing and implementing systems. They are now matured technologies that improve many research fields significantly. The area of wireless multimedia communications has developed immensely, generating a large number of concepts, ideas, technical specifications, mobile standards, patents, and articles. Identifying the basic ideas and their complex interconnections becomes increasingly important. The book is divided into three major parts, with each part containing four or five chapters: Advanced 5G communication Machine learning-based communication and network automation Artificial Intelligence towards 6G The first part discusses three main scenarios and standard specification of 5G use cases (eMBB, URLLC, mMTC), vehicular systems beyond 5G, and efficient edge architecture on NFV infrastructure. In the second part, different AI/ML-based methodologies and open research challenges are presented in introducing 5G-AIoT artificial intelligence of things, scheduling in 5G/6G communication systems, application of DL techniques to modulation, detection, and channel coding as well as 5G Open Source tools for experimentations and testing. The third part paved the way to deployment scenarios for different innovative services including technologies and applications of 5G/6G intelligent connectivity, AI-assisted eXtended Reality, integrated 5G-IoT architecture in next-generation Smart Grid, privacy requirements in a hyper-connected world, and evaluation of representative 6G use cases and technology trends. The book is written by field experts from Europe and Mauritius who introduce a blend of scientific and engineering concepts covering this emerging wireless communication era. It is a very good reference book for telecom professionals, engineers, and practitioner in various 5G vertical domains and, finally, a basis for student courses in 5G/6G wireless systems.

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managed if this potential for good is to be realized without harm. This book presents the proceedings of ArtInHCI2023, the 1st International Conference on Artificial Intelligence and Human-Computer Interaction, held as an online event from 27-28 October 2023, and attended by around 70 participants from around the world. The aim of the conference was to promote academic exchange within and across disciplines, addressing theoretical and practical challenges and advancing current understanding and application. A total of 72 submissions were received for the conference, of which 41 were selected for presentation and publication following a thorough peer review process, resulting in an acceptance rate of 57%. Topics covered included deep learning, artificial neural networks, computer vision and pattern recognition and papers were focused on the challenges of research as well as application. Providing a fascinating overview of developments and innovation in the field, the book will be of interest to all those working with AI or human-computer interaction.

ieee transactions on artificial intelligence: Data Science & Exploration in Artificial Intelligence Gururaj H L, Francesco Flammini, Shreyas J, 2025-02-26 The book captures the essence of the International Conference on Data Science & Exploration in Artificial Intelligence and offers a comprehensive exploration of cutting-edge research in AI, data science, and their applications. It covers a wide array of topics including advanced Data Science, IoT, Security, Cloud Computing, Networks, Security, Image, Video and Signal Processing, Computational Biology, Computer and Information Technology. It highlights innovative research contributions and practical applications, offering readers a detailed understanding of current trends and challenges. The findings emphasize the role of global collaboration and interdisciplinary approaches in pushing the boundaries of AI and data science. Selected papers published by Taylor and Francis showcase pioneering work that is shaping the future of these fields. This is an ideal read for AI and data science researchers, industry professionals, and students seeking to stay updated on the latest advancements and ethical considerations in these areas.

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ieee transactions on artificial intelligence: *Innovations in Applied Artificial Intelligence* Floriana Esposito, 2005-06-28 “Intelligent systems are those which produce intelligent o?springs.” AI researchers have been focusing on developing and employing strong methods that are capable of solving complex real-life problems. The 18th International Conference on Industrial & Engineering Applications of Arti?cial Intelligence & Expert Systems (IEA/AIE 2005) held in Bari, Italy presented such work performed by many scientists worldwide. The Program Committee selected long papers from contributions presenting more complete work and posters from those reporting ongoing research. The Committee enforced the rule that only original and unpublished work could be

considered for inclusion in these proceedings. The Program Committee selected 116 contributions from the 271 subm- ted papers which cover the following topics: arti?cial systems, search engines, intelligent interfaces, knowledge discovery, knowledge-based technologies, na- ral language processing, machine learning applications, reasoning technologies, uncertainty management, applied data mining, and technologies for knowledge management. The contributions oriented to the technological aspects of AI and the quality of the papers are witness to a research activity clearly aimed at consolidating the theoretical results that have already been achieved. The c- ference program also included two invited lectures, by Katharina Morik and Roberto Pieraccini. Manypeoplecontributedindi?erentwaystothesuccessoftheconferenceand to this volume. The authors who continue to show their enthusiastic interest in applied intelligence research are a very important part of our success. We highly appreciate the contribution of the members of the Program Committee, as well as others who reviewed all the submitted papers with e?ciency and dedication.

ieee transactions on artificial intelligence: *Artificial Intelligence Research and Development* J. Sabater-Mir, V. Torra, I. Aguiló, 2019-10-02 Artificial intelligence has now become an indispensible tool at the centre of problem-solving in a huge range of digital technologies, and remains one of the most vibrant topics for discussion and research. This book presents a compilation of the articles presented at the 22nd (2019) edition of the International Conference of the Catalan Association for Artificial Intelligence (CCIA), held in Mallorca, Spain, from 23 – 25 October 2019. This annual conference is an international event that serves as a meeting point for researchers into artificial intelligence based in the area of the Catalan speaking territories and for researchers from around the world. The book is divided into 8 sections. The first contains summaries of the 3 invited talks presented at the conference: 'New methods for fusing information and the computational brain', by Javier Fernandez; 'From correlation to imagination: Deep generative models for artificial intelligence' by Joan Serrà; and 'Explainable AI' by Anna Monreale. The remaining 7 sections contain 47 papers covering ethics and E-governance; machine learning; constraints and SAT, optimization and fuzzy; data science, recommender systems and decision support systems; agent-based and multi-agent systems; computer vision; and sentiment analysis and text analysis. The book provides an overview of the latest developments in the field, and as such will be of interest to all those whose work involves the study and application of artificial intelligence.

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