

Dynamic Memory Network On Natural Language Question Answering

This two-volume set of LNAI 11838 and LNAI 11839 constitutes the refereed proceedings of the 8th CCF Conference on Natural Language Processing and Chinese Computing, NLPC 2019, held in Dunhuang, China, in October 2019. The 85 full papers and 56 short papers presented were carefully reviewed and selected from 492 submissions. They are organized in the following topical sections: Conversational Bot/QA/IR; Knowledge graph/IE; Machine Learning for NLP; Machine Translation; NLP Applications; NLP for Social Network; NLP Fundamentals; Text Mining; Short Papers; Explainable AI Workshop; Student Workshop: Evaluation Workshop.

This book focuses on the core areas of computing and their applications in the real world. Presenting papers from the Computing Conference 2020 covers a diverse range of research areas, describing various detailed techniques that have been developed and implemented. The Computing Conference 2020, which provided a venue for academic and industry practitioners to share new ideas and development experiences, attracted a total of 514 submissions from pioneering academic researchers, scientists, industrial engineers and students from around the globe. Following a double-blind, peer-review process, 160 papers (including 15 poster papers) were selected to be included in these proceedings. Featuring state-of-the-art intelligent methods and techniques for solving real-world problems, the book is a valuable resource and will inspire further research and technological improvements in this important area.

The sixteen-volume set comprising the LNCS volumes 11205-11220 constitutes the refereed proceedings of the 15th European Conference on Computer Vision, ECCV 2018, held in Munich, Germany, in September 2018. The 776 revised papers presented were carefully reviewed and selected from 2439 submissions. The papers are organized in topical sections on learning for vision; computational photography; human analysis; human sensing; stereo and reconstruction; optimization; matching and recognition; video attention; and poster sessions.

The eight-volume set LNCS 12901, 12902, 12903, 12904, 12905, 12906, 12907, and 12908 constitutes the refereed proceedings of the 24th International Conference on Medical Image Computing and Computer-Assisted Intervention, MICCAI 2021, held in Strasbourg, France, in September/October 2021.* The 531 revised full papers presented were carefully reviewed and selected from 1630 submissions in a double-blind review process. The papers are organized in the following topical sections: Part I: image segmentation Part II: machine learning - self-supervised learning; machine learning - semi-supervised learning; and machine learning - weakly supervised learning Part III: machine learning - advances in machine learning theory; machine learning - attention models; machine learning - domain adaptation; machine learning - federated learning; machine learning - interpretability / explainability; and machine learning - uncertainty Part IV: image registration; image-guided interventions and surgery; surgical data science; surgical planning and simulation; surgical skill and work flow analysis; and surgical visualization and mixed, augmented and virtual reality Part V: computer aided diagnosis; integration of imaging with non-imaging biomarkers; and outcome/disease prediction Part VI: image reconstruction; clinical applications - cardiac; and clinical applications - vascular Part VII: clinical applications - abdomen; clinical applications - breast; clinical applications - dermatology; clinical applications - fetal imaging; clinical applications - lung; clinical applications - neuroimaging - brain development; clinical applications - neuroimaging - DWI and tractography; clinical applications - neuroimaging - functional brain networks; clinical applications - neuroimaging - others; and clinical applications - oncology Part VIII: clinical applications - ophthalmology; computational (integrative) pathology; modalities - microscopy; modalities - histopathology; and modalities - ultrasound *The conference was held virtually.

This book provides a systematic and unified methodology, including basic principles and reusable processes, for dynamic memory management (DMM) in embedded systems. The authors describe in detail how to design and optimize the use of dynamic memory in modern, multimedia and network applications, targeting the latest generation of portable embedded systems, such as smartphones. Coverage includes a variety of design and optimization topics in electronic design automation of DMM, from high-level software optimization to microarchitecture-level hardware support. The authors describe the design of multi-layer dynamic data structures for the final memory hierarchy layers of the target portable embedded systems and how to create a low-fragmentation, cost-efficient, dynamic memory management subsystem out of configurable components for the particular memory allocation and de-allocation patterns for each type of application. The design methodology described in this book is based on propagating constraints among design decisions from multiple abstraction levels (both hardware and software) and customizing DMM according to application-specific data access and storage behaviors.

The six volume set LNCS 10634, LNCS 10635, LNCS 10636, LNCS 10637, LNCS 10638, and LNCS 10639 constitutes the proceedings of the 24th International Conference on Neural Information Processing, ICONIP 2017, held in Guangzhou, China, in November 2017. The 563 full papers presented were carefully reviewed and selected from 856 submissions. The 6 volumes are organized in topical sections on Machine Learning, Reinforcement Learning, Big Data Analysis, Deep Learning, Brain-Computer Interface, Computational Finance, Computer Vision, Neurodynamics, Sensory Perception and Decision Making, Computational Intelligence, Neural Data Analysis, Biomedical Engineering, Emotion and Bayesian Networks, Data Mining, Time-Series Analysis, Social Networks, Bioinformatics, Information Security and Social Cognition, Robotics and Control, Pattern Recognition, Neuromorphic Hardware and Speech Processing.

This four-volume set of LNCS 12821, LNCS 12822, LNCS 12823 and LNCS 12824, constitutes the refereed proceedings of the 16th International Conference on Document Analysis and Recognition, ICDAR 2021, held in Lausanne, Switzerland in September 2021. The 182 full papers were carefully reviewed and selected from 340 submissions, and are presented with 13 competition reports. The papers are organized into the following topical sections: document analysis for literature search, document summarization and translation, multimedia document analysis, mobile text recognition, document analysis for social good, indexing and retrieval of documents, physical and logical layout analysis, recognition of tables and formulas, and natural language processing (NLP) for document understanding.

Connection science is a new information-processing paradigm which attempts to imitate the architecture and process of the brain, and brings together researchers from disciplines as diverse as computer science, physics, psychology, philosophy, linguistics, biology, engineering, neuroscience and AI. Work in Connectionist Natural Language Processing (CNLP) is now expanding rapidly, yet much of the work is still only available in journals, some of them quite obscure. To make this research more accessible this book brings together an important and comprehensive

set of articles from the journal CONNECTION SCIENCE which represent the state of the art in Connectionist natural language processing; from speech recognition to discourse comprehension. While it is quintessentially Connectionist, it also deals with hybrid systems, and will be of interest to both theoreticians as well as computer modellers. Range of topics covered: Connectionism and Cognitive Linguistics Motion, Chomsky's Government-binding Theory Syntactic Transformations on Distributed Representations Syntactic Neural Networks A Hybrid Symbolic/Connectionist Model for Understanding of Nouns Connectionism and Determinism in a Syntactic Parser Context Free Grammar Recognition Script Recognition with Hierarchical Feature Maps Attention Mechanisms in Language Script-Based Story Processing A Connectionist Account of Similarity in Vowel Harmony Learning Distributed Representations Connectionist Language Users Representation and Recognition of Temporal Patterns A Hybrid Model of Script Generation Networks that Learn about Phonological Features Pronunciation in Text-to-Speech Systems

The book presents a remarkable collection of chapters covering a wide range of topics in the areas of intelligent systems and artificial intelligence, and their real-world applications. It gathers the proceedings of the Intelligent Systems Conference 2019, which attracted a total of 546 submissions from pioneering researchers, scientists, industrial engineers, and students from all around the world. These submissions underwent a double-blind peer-review process, after which 190 were selected for inclusion in these proceedings. As intelligent systems continue to replace and sometimes outperform human intelligence in decision-making processes, they have made it possible to tackle a host of problems more effectively. This branching out of computational intelligence in several directions and use of intelligent systems in everyday applications have created the need for an international conference as a venue for reporting on the latest innovations and trends. This book collects both theory and application based chapters on virtually all aspects of artificial intelligence; presenting state-of-the-art intelligent methods and techniques for solving real-world problems, along with a vision for future research, it represents a unique and valuable asset.

This book (CCIS 837) constitutes the refereed proceedings of the Second International Conference on Soft Computing Systems, ICSCS 2018, held in Sasthamcotta, India, in April 2018. The 87 full papers were carefully reviewed and selected from 439 submissions. The papers are organized in topical sections on soft computing, evolutionary algorithms, image processing, deep learning, artificial intelligence, big data analytics, data mining, machine learning, VLSI, cloud computing, network communication, power electronics, green energy.

The two-volume set LNAI 12084 and 12085 constitutes the thoroughly refereed proceedings of the 24th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2020, which was due to be held in Singapore, in May 2020. The conference was held virtually due to the COVID-19 pandemic. The 135 full papers presented were carefully reviewed and selected from 628 submissions. The papers present new ideas, original research results, and practical development experiences from all KDD related areas, including data mining, data warehousing, machine learning, artificial intelligence, databases, statistics, knowledge engineering, visualization, decision-making systems, and the emerging applications. They are organized in the following topical sections: recommender systems; classification; clustering; mining social networks; representation learning and embedding; mining behavioral data; deep learning; feature extraction and selection; human, domain, organizational and social factors in data mining; mining sequential data; mining imbalanced data; association; privacy and security; supervised learning; novel algorithms; mining multi-media/multi-dimensional data; application; mining graph and network data; anomaly detection and analytics; mining spatial, temporal, unstructured and semi-structured data; sentiment analysis; statistical/graphical model; multi-source/distributed/parallel/cloud computing.

This two-volume set LNCS 12656 and 12657 constitutes the refereed proceedings of the 43rd European Conference on IR Research, ECIR 2021, held virtually in March/April 2021, due to the COVID-19 pandemic. The 50 full papers presented together with 11 reproducibility papers, 39 short papers, 15 demonstration papers, 12 CLEF lab descriptions papers, 5 doctoral consortium papers, 5 workshop abstracts, and 8 tutorials abstracts were carefully reviewed and selected from 436 submissions. The accepted contributions cover the state of the art in IR: deep learning-based information retrieval techniques, use of entities and knowledge graphs, recommender systems, retrieval methods, information extraction, question answering, topic and prediction models, multimedia retrieval, and much more.

This book constitutes the refereed proceedings of the 9th International Conference on Advances in Brain Inspired Cognitive Systems, BICS 2018, held in Xi'an, China, in July 2018. The 83 papers presented in this volume were carefully reviewed and selected from 137 submissions. The papers were organized in topical sections named: neural computation; biologically inspired systems; image recognition: detection, tracking and classification; data analysis and natural language processing; and applications.

This book covers both classical and modern models in deep learning. The primary focus is on the theory and algorithms of deep learning. The theory and algorithms of neural networks are particularly important for understanding important concepts, so that one can understand the important design concepts of neural architectures in different applications. Why do neural networks work? When do they work better than off-the-shelf machine-learning models? When is depth useful? Why is training neural networks so hard? What are the pitfalls? The book is also rich in discussing different applications in order to give the practitioner a flavor of how neural architectures are designed for different types of problems. Applications associated with many different areas like recommender systems, machine translation, image captioning, image classification, reinforcement-learning based gaming, and text analytics are covered. The chapters of this book span three categories: The basics of neural networks: Many traditional machine learning models can be understood as special cases of neural networks. An emphasis is placed in the first two chapters on understanding the relationship between traditional machine learning and neural networks. Support vector machines, linear/logistic regression, singular value decomposition, matrix factorization, and recommender systems are shown to be special cases of neural networks. These methods are studied together with recent feature engineering methods like word2vec.

Fundamentals of neural networks: A detailed discussion of training and regularization is provided in Chapters 3 and 4. Chapters 5 and 6 present radial-basis function (RBF) networks and restricted Boltzmann machines. Advanced topics in neural networks: Chapters 7 and 8 discuss recurrent neural networks and convolutional neural networks. Several advanced topics like deep reinforcement learning, neural Turing machines, Kohonen self-organizing maps, and generative adversarial networks are introduced in Chapters 9 and 10. The book is written for graduate students, researchers, and practitioners. Numerous exercises are available along with a solution manual to aid in classroom teaching. Where possible, an application-centric view is highlighted in order to provide an understanding of the practical uses of each class of techniques.

The two-volume set LNCS 12415 and 12416 constitutes the refereed proceedings of the 19th International Conference on Artificial Intelligence and Soft Computing, ICAISC 2020, held in Zakopane, Poland*, in October 2020. The 112 revised full papers presented were carefully reviewed and selected from 265 submissions. The papers included in the first volume are organized in the following six parts: neural networks and their applications; fuzzy systems and their applications; evolutionary algorithms and their applications; pattern classification; bioinformatics, biometrics and medical applications; artificial intelligence in modeling and simulation. The papers included in the second volume are organized in the following four parts: computer vision, image and speech analysis; data mining; various problems of artificial intelligence; agent systems, robotics and control. *The conference was held virtually due to the COVID-19 pandemic. This three volume set, CCIS 771, 772, 773, constitutes the refereed proceedings of the CCF Chinese Conference on Computer Vision, CCCV 2017, held in Tianjin, China, in October 2017. The total of 174 revised full papers presented in three volumes were carefully reviewed and selected from 465 submissions. The papers are organized in the following topical sections: biological vision inspired visual method; biomedical image analysis; computer vision applications; deep neural network; face and posture analysis; image and video retrieval; image color and texture; image composition; image quality assessment and analysis; image restoration; image segmentation and classification; image-based modeling; object detection and classification; object identification; photography and video; robot vision; shape representation and matching; statistical methods and learning; video analysis and event recognition; visual salient detection. This book constitutes the thoroughly refereed post-proceedings of the 9th International Conference on Adaptive and Natural Computing Algorithms, ICANNGA 2009, held in Kuopio, Finland, in April 2009. The 63 revised full papers presented were carefully reviewed and selected from a total of 112 submissions. The papers are organized in topical sections on neural networks, evolutionary computation, learning, soft computing, bioinformatics as well as applications.

This two-volume set of LNAI 12340 and LNAI 12341 constitutes the refereed proceedings of the 9th CCF Conference on Natural Language Processing and Chinese Computing, NLPCC 2020, held in Zhengzhou, China, in October 2020. The 70 full papers, 30 poster papers and 14 workshop papers presented were carefully reviewed and selected from 320 submissions. They are organized in the following areas: Conversational Bot/QA; Fundamentals of NLP; Knowledge Base, Graphs and Semantic Web; Machine Learning for NLP; Machine Translation and Multilinguality; NLP Applications; Social Media and Network; Text Mining; and Trending Topics.

Develop deep neural networks in Theano with practical code examples for image classification, machine translation, reinforcement agents, or generative models. About This Book Learn Theano basics and evaluate your mathematical expressions faster and in an efficient manner Learn the design patterns of deep neural architectures to build efficient and powerful networks on your datasets Apply your knowledge to concrete fields such as image classification, object detection, chatbots, machine translation, reinforcement agents, or generative models. Who This Book Is For This book is intended to provide a full overview of deep learning. From the beginner in deep learning and artificial intelligence, to the data scientist who wants to become familiar with Theano and its supporting libraries, or have an extended understanding of deep neural nets. Some basic skills in Python programming and computer science will help, as well as skills in elementary algebra and calculus. What You Will Learn Get familiar with Theano and deep learning Provide examples in supervised, unsupervised, generative, or reinforcement learning. Discover the main principles for designing efficient deep learning nets: convolutions, residual connections, and recurrent connections. Use Theano on real-world computer vision datasets, such as for digit classification and image classification. Extend the use of Theano to natural language processing tasks, for chatbots or machine translation Cover artificial intelligence-driven strategies to enable a robot to solve games or learn from an environment Generate synthetic data that looks real with generative modeling Become familiar with Lasagne and Keras, two frameworks built on top of Theano In Detail This book offers a complete overview of Deep Learning with Theano, a Python-based library that makes optimizing numerical expressions and deep learning models easy on CPU or GPU. The book provides some practical code examples that help the beginner understand how easy it is to build complex neural networks, while more experimented data scientists will appreciate the reach of the book, addressing supervised and unsupervised learning, generative models, reinforcement learning in the fields of image recognition, natural language processing, or game strategy. The book also discusses image recognition tasks that range from simple digit recognition, image classification, object localization, image segmentation, to image captioning. Natural language processing examples include text generation, chatbots, machine translation, and question answering. The last example deals with generating random data that looks real and solving games such as in the Open-AI gym. At the end, this book sums up the best -performing nets for each task. While early research results were based on deep stacks of neural layers, in particular, convolutional layers, the book presents the principles that improved the efficiency of these architectures, in order to help the reader build new custom nets. Style and approach It is an easy-to-follow example book that teaches you how to perform fast, efficient computations in Python. Starting with the very basics-NumPy, installing Theano, this book will take you to the smooth journey of implementing Theano for advanced computations for machine learning and deep learning.

Artificial intelligence and its various components are rapidly engulfing almost every professional industry. Specific features of AI that have proven to be vital solutions to numerous real-world issues are machine learning and deep learning. These intelligent agents unlock higher levels of performance and efficiency, creating a wide span of industrial applications. However, there is a lack of research on the specific uses of machine/deep learning in the professional realm. Machine Learning and Deep Learning in Real-Time Applications provides emerging research exploring the theoretical and practical aspects of machine learning and deep learning and their implementations as well as their ability to solve real-world problems within several professional disciplines including healthcare, business, and computer science. Featuring coverage on a broad range of topics such as image processing, medical improvements, and smart grids, this book is ideally designed for researchers, academicians, scientists, industry experts, scholars, IT professionals, engineers, and students seeking current research on the multifaceted uses and implementations of machine learning and deep learning across the globe.

The three-volume set LNAI 11439, 11440, and 11441 constitutes the thoroughly refereed proceedings of the 23rd Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2019, held in Macau, China, in April 2019. The 137 full papers presented were carefully reviewed and selected from 542 submissions. The papers present new ideas, original research results, and practical development experiences from all KDD related areas, including data mining, data warehousing, machine learning, artificial intelligence, databases, statistics, knowledge engineering, visualization, decision-making systems, and the emerging applications. They are organized in the following topical sections: classification and supervised learning; text and

opinion mining; spatio-temporal and stream data mining; factor and tensor analysis; healthcare, bioinformatics and related topics; clustering and anomaly detection; deep learning models and applications; sequential pattern mining; weakly supervised learning; recommender system; social network and graph mining; data pre-processing and feature selection; representation learning and embedding; mining unstructured and semi-structured data; behavioral data mining; visual data mining; and knowledge graph and interpretable data mining.

is both a player and a spectator, is explained here illuminatingly. With regard to logical ambiguities and paradoxes, which may show up in all these topics, he, like Locker, is of the opinion that, philosophically speaking all apory of a lower level have to be accepted an a higher level of thinking. After the above expositions of a more general purport we turn now to two contributions which are particularly focused on Bohr's concept of complementarity. First is the article of Hilgevoord who briefly and non-technically describes a short curriculum vitae of the concept beginning with Planck through Bohr to Heisenberg and Schrodinger. Included in this short story, of course, is the famous wave-particle duality and the paradox inherent in it many physicists are still saddled with. How this paradox was solved is explained here simply and clearly: first, generally by quantum mechanics where the disturbance theory of measurement was supposed to be of some relevance, and secondly, where this theory is further refmed leading to Bohr's conclusion of the essential unsolvability, and accordingly the completeness, of the statistical element of quantum mechanics. The reading of this short article may arouse questions and surmises whether complementarity has been ruminated by Bohr to tame the law of excluded middle dividing the well-defined content of position measurement from that of momentum measurement, just to mention one. Whatever it may be the idea of complementarity betrays the perplexity of the observing system in dealing with nature's complexity.

This 2-volume set constitutes the refereed proceedings of the 9th Iberian Conference on Pattern Recognition and Image Analysis, IbPRIA 2019, held in Madrid, Spain, in July 2019. The 99 papers in these volumes were carefully reviewed and selected from 137 submissions. They are organized in topical sections named: Part I: best ranked papers; machine learning; pattern recognition; image processing and representation. Part II: biometrics; handwriting and document analysis; other applications.

This book constitutes the refereed proceedings of the Second International Conference on Mobile Ad-hoc and Sensor Networks, MSN 2006, held in Hong Kong, China in December 2006. The 73 revised full papers address all current issues in mobile ad hoc and sensor networks and are organized in topical sections on routing, network protocols, security, energy efficiency, data processing, and deployment.

This two-volume set, LNCS 11317 and 12318, constitutes the thoroughly refereed proceedings of the 4th International Joint Conference, APWeb-WAIM 2020, held in Tianjin, China, in September 2020. Due to the COVID-19 pandemic the conference was organized as a fully online conference. The 42 full papers presented together with 17 short papers, and 6 demonstration papers were carefully reviewed and selected from 180 submissions. The papers are organized around the following topics: Big Data Analytics; Graph Data and Social Networks; Knowledge Graph; Recommender Systems; Information Extraction and Retrieval; Machine Learning; Blockchain; Data Mining; Text Analysis and Mining; Spatial, Temporal and Multimedia Databases; Database Systems; and Demo.

This book constitutes the thoroughly refereed post-workshop proceedings of the 4th International Symposium, SETE 2019, held in conjunction with ICWL 2019, in Magdeburg, Germany, in September 2019. The 10 full and 6 short papers presented together with 24 papers from 5 workshops were carefully reviewed and selected from 34 submissions. The papers cover the latest findings in various areas, such as: virtual reality and game-based learning; learning analytics; K-12 education; language learning; design, model and implementation of e-learning platforms and tools; digitalization and industry 4.0; pedagogical issues, practice and experience sharing.

The three-volume set LNCS 12681-12683 constitutes the proceedings of the 26th International Conference on Database Systems for Advanced Applications, DASFAA 2021, held in Taipei, Taiwan, in April 2021. The total of 156 papers presented in this three-volume set was carefully reviewed and selected from 490 submissions. The topic areas for the selected papers include information retrieval, search and recommendation techniques; RDF, knowledge graphs, semantic web, and knowledge management; and spatial, temporal, sequence, and streaming data management, while the dominant keywords are network, recommendation, graph, learning, and model. These topic areas and keywords shed the light on the direction where the research in DASFAA is moving towards. Due to the Corona pandemic this event was held virtually.

The 4-volume set LNCS 13019, 13020, 13021 and 13022 constitutes the refereed proceedings of the 4th Chinese Conference on Pattern Recognition and Computer Vision, PRCV 2021, held in Beijing, China, in October-November 2021. The 201 full papers presented were carefully reviewed and selected from 513 submissions. The papers have been organized in the following topical sections: Object Detection, Tracking and Recognition; Computer Vision, Theories and Applications, Multimedia Processing and Analysis; Low-level Vision and Image Processing; Biomedical Image Processing and Analysis; Machine Learning, Neural Network and Deep Learning, and New Advances in Visual Perception and Understanding.

This book constitutes the refereed proceedings of the 19th EPIA Conference on Artificial Intelligence, EPIA 2019, held in Funchal, Madeira, Portugal, in September 2019. The 119 revised full papers and 6 short papers presented were carefully reviewed and selected from a total of 252 submissions. The papers are organized in 18 tracks devoted to the following topics: AIEd - Artificial Intelligence in Education, AI4G - Artificial Intelligence for Games, AIoTA - Artificial Intelligence and IoT in Agriculture, AIL - Artificial Intelligence and Law, AIM - Artificial Intelligence in Medicine, AICPDES - Artificial Intelligence in Cyber-Physical and Distributed Embedded Systems, AIPES - Artificial Intelligence in Power and Energy Systems, AITS - Artificial Intelligence in Transportation Systems, ALEA - Artificial Life and Evolutionary Algorithms, AmlA - Ambient Intelligence and Affective Environments, BAAI - Business Applications of Artificial Intelligence, GAI- General AI, IROBOT - Intelligent Robotics, KDBI - Knowledge Discovery and Business Intelligence, KRR - Knowledge Representation and Reasoning, MASTA - Multi-Agent Systems: Theory and Applications, SSM - Social Simulation and Modelling, TeMA - Text Mining and

Applications.

Legal Knowledge and Information Systems JURIX 2019: The Thirty-second Annual Conference IOS Press

This book gathers the Proceedings of the 6th International Conference on Robot Intelligence Technology and Applications (RITA 2018). Reflecting the conference's main theme, "Robotics and Machine Intelligence: Building Blocks for Industry 4.0," it features relevant and current research investigations into various aspects of these building blocks. The areas covered include: Instrumentation and Control, Automation, Autonomous Systems, Biomechatronics and Rehabilitation Engineering, Intelligent Systems, Machine Learning, Robotics, Sensors and Actuators, and Machine Vision, as well as Signal and Image Processing. A valuable asset, the book offers researchers and practitioners a timely overview of the latest advances in robot intelligence technology and its applications.

In recent years, the application of machine learning tools to legally relevant tasks has become much more prevalent, and the growing influence of AI in the legal sphere has prompted the profession to take more of an interest in the explainability, trustworthiness, and responsibility of intelligent systems. This book presents the proceedings of the 32nd International Conference on Legal Knowledge and Information Systems (JURIX 2019), held in Madrid, Spain, from 11 to 13 December 2019. Traditionally focused on legal knowledge representation and engineering, computational models of legal reasoning, and analyses of legal data, more recently the conference has also encompassed the use of machine learning tools. A total of 81 submissions were received for the conference, of which 14 were selected as full papers and 17 as short papers. A further 3 submissions were accepted as demo presentations, resulting in a total acceptance rate of 41.98%, with a competitive 25.5% acceptance rate for full papers. The 34 papers presented here cover a broad range of topics, from computational models of legal argumentation, case-based reasoning, legal ontologies, and evidential reasoning, through classification of different types of text in legal documents and comparing similarities, to the relevance of judicial decisions to issues of governmental transparency. The book will be of interest to all those whose work involves the use of knowledge and information systems in the legal sphere.

This book constitutes the thoroughly refereed proceedings of the 9th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management, IC3K 2017, held in Funchal, Madeira, Portugal, in November 2017. The 19 full papers presented were carefully reviewed and selected from 157 submissions. The papers are organized in topical sections on knowledge discovery and information retrieval; knowledge engineering and ontology development; and knowledge management and information sharing.

This two-volume set LNCS 10827 and LNCS 10828 constitutes the refereed proceedings of the 23rd International Conference on Database Systems for Advanced Applications, DASFAA 2018, held in Gold Coast, QLD, Australia, in May 2018. The 83 full papers, 21 short papers, 6 industry papers, and 8 demo papers were carefully selected from a total of 360 submissions. The papers are organized around the following topics: network embedding; recommendation; graph and network processing; social network analytics; sequence and temporal data processing; trajectory and streaming data; RDF and knowledge graphs; text and data mining; medical data mining; security and privacy; search and information retrieval; query processing and optimizations; data quality and crowdsourcing; learning models; multimedia data processing; and distributed computing.

This book constitutes the proceedings of the 17th China National Conference on Computational Linguistics, CCL 2018, and the 6th International Symposium on Natural Language Processing Based on Naturally Annotated Big Data, NLP-NABD 2018, held in Changsha, China, in October 2018. The 33 full papers presented in this volume were carefully reviewed and selected from 84 submissions. They are organized in topical sections named: Semantics; machine translation; knowledge graph and information extraction; linguistic resource annotation and evaluation; information retrieval and question answering; text classification and summarization; social computing and sentiment analysis; and NLP applications.

This book constitutes the refereed proceedings of the 9th International Conference of the CLEF Initiative, CLEF 2018, jointly organized by Avignon, Marseille and Toulon universities and held in Avignon, France, in September 2018. The conference has a clear focus on experimental information retrieval with special attention to the challenges of multimodality, multilinguality, and interactive search ranging from unstructured to semi structures and structured data. The 13 papers presented in this volume were carefully reviewed and selected from 39 submissions. Many papers tackle the medical ehealth and ehealth multimedia retrieval challenges, however there are many other topics of research such as document clustering, social biases in IR, social book search, personality profiling. Further this volume presents 9 "best of the labs" papers which were reviewed as a full paper submission with the same review criteria. The labs represented scientific challenges based on new data sets and real world problems in multimodal and multilingual information access. In addition to this, 10 benchmarking labs reported results of their yearlong activities in overview talks and lab sessions. The papers address all aspects of information access in any modularity and language and cover a broad range of topics in the field of multilingual and multimodal information access evaluation.

This book constitutes the refereed proceedings of the 13th China Conference on Wireless Sensor Networks, CWSN 2019, held in Chongqing, China, in October 2019. The 27 full papers were carefully reviewed and selected from 158 submissions. The papers are organized in topical sections on fundamentals on Internet of Things; applications on Internet of Things; and IntelliSense, location and tracking.

The three volume proceedings LNAI 10534 – 10536 constitutes the refereed proceedings of the European Conference on Machine Learning and Knowledge Discovery in Databases, ECML PKDD 2017, held in Skopje, Macedonia, in September 2017. The total of 101 regular papers presented in part I and part II was carefully reviewed and selected from 364 submissions; there are 47 papers in the applied data science, nectar and demo track. The contributions were organized in topical sections named as follows: Part I: anomaly detection; computer vision; ensembles and meta learning; feature selection and extraction; kernel methods; learning and optimization, matrix and tensor factorization; networks and graphs; neural networks and deep learning. Part II: pattern and sequence mining; privacy and security; probabilistic models and methods; recommendation; regression; reinforcement learning; subgroup discovery; time series and streams; transfer and multi-task learning; unsupervised and semisupervised learning. Part III: applied data science track; nectar track; and demo track.

The two volume set CCIS 1030 and 1031 constitutes the refereed proceedings of the Second International Conference on Computational Intelligence, Communications, and Business Analytics, CICBA 2018, held in Kalyani, India, in July 2018. The 76 revised full papers presented in the two volumes were carefully reviewed and selected from 240 submissions. The papers are organized in topical sections on computational intelligence; signal processing and communications; microelectronics, sensors, and intelligent networks; data science & advanced data analytics; intelligent data mining & data warehousing; and computational forensics (privacy and security).

This book comprehensively addresses computational intelligence, including the theories, methodologies and techniques underlying this evolving field, as well as its potential uses in various domains across the entire spectrum of the sciences (the natural sciences, health sciences, engineering, social sciences, and humanities) and in various types of business. Computational intelligence is rapidly spreading into all kinds of products and services. This calls for the adaptation of existing theories, methodologies and techniques – and the development of wholly new ones – to ensure the successful implementation of new intelligent products and services in various domains related to public organizations, businesses and everyday life. This book gathers contributions from various experts working on different aspects and implementations of computational intelligence, which address new developments in theory, analytical and numerical simulation and modeling, experimentation, deployment and case studies, results of laboratory or field operational tests, and ongoing advances in computational intelligence. It is intended for a broad audience, including researchers, engineers, policymakers, industry experts, and students, offering these readers essential information on and new inspirations regarding the potential of computational intelligence.

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