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Artificial Intelligence and Bio-inspired Computing -- Sec104 -- Sec105 -- 3. Multimedia Systems and Virtual Reality -- Sec106 -- Sec161 -- 4. Next Generation Wireless Networks -- Sec107 -- Sec108 -- 5. Semantic Web and Web Services -- Sec109 -- Sec110 -- 6. Security and Trusted Computing -- Sec112 -- Sec113 -- 7. HPC and Cloud Computing Services and Orchestration Tools -- Sec116 -- Sec1177 -- 8. Parallel, Distributed and Multicore Computing -- Sec119 -- Sec1200 -- Sec1700 -- Sec121 -- Sec122 -- 10. Complex Systems, Software Modeling and Analytics -- Sec125 -- Sec126 -- 11. Multi-agent Systems, SLA Cloud and Social Computing -- Sec131 -- Sec138 -- 12. Internet of Everything and Machine Learning -- Sec141 -- Sec142 -- CISIS-2021 Reviewers -- CISIS-2021 Keynote Talks -- Asking AI Why: Explainable Artificial Intelligence -- Coevolution of Semantic and Blockchain Technologies -- Contents -- Four Grade Levels-Based Models with Random Forest for Student Performance Prediction at a Multidisciplinary University -- 1 Introduction -- 2 Related Work -- 3 Data Description -- 4 Proposed Approach -- 5 Experimental Results -- 6 Conclusion -- References -- The Role of Collective Engagement to Strengthen Organizational Identity -- Abstract -- 1 Introduction -- 2 Literature Review and Hypothesis Development -- 2.1 Collaboration and Competition. 2.2 Managerial Motivation and Collective Engagement -- 2.3 Engagement and Community Identity -- 2.4 Collapetition Management Practices -- 3 Method -- 4 Result and Discussion -- 5 Conclusion, Implication and Future Research -- References -- A Novel Structural and Semantic Similarity in Social Recommender Systems -- 1 Introduction -- 2 Related Work -- 3 Proposed Method -- 3.1 Dependency Graph of Users -- 3.2 Homophily Concept -- 3.3 User Modeling -- 3.4 Structural Information Extraction -- 4 Experiment and Results -- 4.1 Datasets -- 4.2 Evaluation Metrics -- 4.3 Results and Discussion -- 5 Conclusion -- References -- Trustworthy Explainability Acceptance: A New Metric to Measure the Trustworthiness of Interpretable AI Medical Diagnostic Systems -- 1 Introduction -- 2 Background and Related Work -- 2.1 Need for AI Explainability Metrics -- 2.2 Trust Mechanism -- 3 AI Trustworthy Explainability Acceptance Metric -- 4 Evaluating AI System for DCIS Recurrence Prediction -- 4.1 Background -- 4.2 Data -- 4.3 Experiments and Results -- 5 Conclusions -- References -- Entity Relation Extraction Based on Multi-attention Mechanism and BiGRU Network -- Abstract -- 1 Introduction -- 2 Related Work -- 3 Model Structure -- 3.1 Embedding Layer -- 3.2 BiGRU Neural Network -- 3.3 Multi-attention Strategy -- 4 Experiment and Analysis -- 4.1 Dataset -- 4.2 Settings -- 4.3 Baseline -- 4.4 Results -- 5 Conclusion -- Acknowledgments -- References -- Time Series Prediction of Wind Speed Based on SARIMA and LSTM -- Abstract -- 1 Introduction -- 2 Related Work -- 3 Establishment of Combined Prediction Model Based on SARIMA-LSTM -- 3.1 Seasonal Auto Regressive Integrated Moving Average -- 3.2 Long Short-Term Memory -- 3.2.1 Recurrent Neural Network -- 3.2.2 LSTM -- 3.3 Modeling Process -- 4 Experiment and Analysis -- 4.1 Data Source and Preprocessing. 4.2 SARIMA Model Construction and Testing -- 4.3 SARIMA-LSTM Model Wind Speed Prediction -- 4.4 Error Analysis -- 5 Conclusion -- Acknowledgments -- References -- Dimensionality Reduction on Metagenomic Data with Recursive Feature Elimination -- 1 Introduction -- 2 Related Research -- 3 Methodology -- 3.1 Implementing Process for Study -- 3.2 Using Recursive Feature Elimination for Feature Selection -- 3.3 Using Random Forest Algorithm -- 3.4 Using Feature Selection Randomly for Comparison -- 3.5 Using K-Fold Cross-

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Sommario/riassunto

This book includes the proceedings of the 15th International Conference on Complex, Intelligent, and Software Intensive Systems, which took place in Asan, Korea, on July 1–3, 2021. Software intensive systems are systems, which heavily interact with other systems, sensors, actuators, devices, and other software systems and users. More and more domains are involved with software intensive systems, e.g., automotive, telecommunication systems, embedded systems in general, industrial automation systems, and business applications. Moreover, the outcome of web services delivers a new platform for enabling software intensive systems. Complex systems research is focused on the overall understanding of systems rather than its components. Complex systems are very much characterized by the changing environments in which they act by their multiple internal and external interactions. They evolve and adapt through internal and external dynamic interactions. The development of intelligent systems and agents, which is each time more characterized by the use of ontologies and their logical foundations build a fruitful impulse for both software intensive systems and complex systems. Recent research in the field of intelligent systems, robotics, neuroscience, artificial intelligence, and cognitive sciences is very important factor for the future development and innovation of software intensive and complex systems. The aim of the book is to deliver a platform of scientific interaction between the three interwoven challenging areas of research and development of future ICT-enabled applications: Software intensive systems, complex systems, and intelligent systems.
