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| Autore | Alonso Moral Jose Maria |
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| Nota di contenuto | Toward Explainable Artificial Intelligence through Fuzzy Systems -- An Overview of Fuzzy Systems -- Interpretability Constraints and Criteria for Fuzzy Systems -- Revisiting Indexes for Assessing Interpretability of Fuzzy Systems -- Designing Interpretable Fuzzy Systems. |
| Sommario/riassunto | The importance of Trustworthy and Explainable Artificial Intelligence (XAI) is recognized in academia, industry and society. This book introduces tools for dealing with imprecision and uncertainty in XAI applications where explanations are demanded, mainly in natural language. Design of Explainable Fuzzy Systems (EXFS) is rooted in Interpretable Fuzzy Systems, which are thoroughly covered in the book. The idea of interpretability in fuzzy systems, which is grounded on mathematical constraints and assessment functions, is firstly introduced. Then, design methodologies are described. Finally, the book shows with practical examples how to design EXFS from interpretable fuzzy systems and natural language generation. This approach is supported by open source software. The book is intended for researchers, students and practitioners who wish to explore EXFS from theoretical and practical viewpoints. The breadth of coverage will inspire novel applications and scientific advancements. |

