

Intelligent Systems: Emerging Trends and Challenges in Deep Neuro-Fuzzy Models and Explainable Artificial Intelligence

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Description This book comprehensively covers an extensive array of topics within the realm of computational intelligence. The scope encompasses fuzzy logic, elucidating the principles and applications of this mathematical framework designed to handle uncertainty and imprecision in data. It delves into the fundamentals of neural networks, exploring their applications in diverse fields such as pattern recognition, image processing, and natural language processing. • Covers a wide range of topics related to computational intelligence, including fuzzy logic, neural networks, and explainable artificial intelligence interpretation. • Discusses the challenges and limitations of computational intelligence techniques, such as the interpretability of artificial intelligence models and the need for ethical considerations in artificial intelligence applications. • Explains neural networks in natural language processing, neural networks in computer vision, and applications of neural networks in real-world scenarios. • Presents applications of computational intelligence in diverse areas such as robotics, transportation, web mining, healthcare, and finance. • Illustrates reinforcement learning-based control systems, adaptive control systems, neuro-fuzzy control systems, and applications of intelligent control systems. The text is primarily written for senior undergraduates, graduate students, and academic researchers in diverse fields, including electrical engineering, electronics and communication engineering, computer science and engineering, and information technology.

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