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| Nota di contenuto | CONTENTS; Preface; Acknowledgments; List of Tables; 1. Introduction; 1.1 Intelligence; 1.2 Reasoning System; 1.3 NAL Overview; 2. IL-1: Idealized Situation; 2.1 Categorical Language; 2.2 Experience-Grounded Semantics; 2.3 Syllogistic Inference Rules; 3. NAL-1: Basic Syntax and Semantics; 3.1 Evidence and its Measurement; 3.2 Two-Dimensional Truth-Value; 3.3 Representations of Uncertainty; 3.4 Experience and Belief; 4. NAL-1: Basic Inference Rules; 4.1 Local Inference Rules; Revision; Choice; 4.2 Forward Inference Rules; Deduction; Induction; Abduction; Conversion; Exemplification 4.3 Backward Inference Rules5. NARS: Basic Memory and Control; 5.1 Inference Tasks; 5.2 Bag-Based Storage; 5.3 Concept as a Unit; 5.4 Inference Cycle; 5.5 Properties of NARS; 6. NAL-2: Derivative Copulas; 6.1 Similarity Copula; Comparison; Analogy; Resemblance; 6.2 Instance Copula; 6.3 Property Copula; 7. NAL-3: Set-Theoretic Terms; 7.1 Compound Term; 7.2 Intersections; 7.3 Differences; 7.4 Multi-Component Sets; 7.5 Inference on Compound Terms; Choice; Composition; 8. NAL-4: Relational Terms; 8.1 Product and Acquired Relation; 8.2 Types of Conceptual Relation 8.3 Image and Structural Transformation9. NAL-5: Statements as Terms; 9.1 Higher-Order Statement; 9.2 Implication and Inheritance; 9.3 Implication as Conditional; 9.4 Negation; 9.5 Analytic Truth in |

Inference; 10. NAL-6: Variable Terms; 10.1 Variable Terms Defined; 10.2 Variable Elimination and Introduction; 10.3 Symbolic Reasoning; 11. NAL-7: Events as Statements; 11.1 Time and Events; 11.2 Temporal Connectors and Copulas; 11.3 Temporal Inference; 12. NAL-8: Operations and Goals as Events; 12.1 Operations as Executable Events; 12.2 Goals as Desired Events; 12.3 Practical Reasoning; 12.4 Sensorimotor Interface; 13. NAL-9: Self-Monitoring and Self-Control; 13.1 Mental Operations; 13.2 Feeling and Emotion; 13.3 Consciousness; 14. Summary and Beyond; 14.1 The Nature of NAL; 14.2 Comparison with other Logics; Classical logics; Non-classical logics; Probabilistic models; 14.3 NAL and AI; Logic-based AGI; Memory and control; Physical experience; Social experience; Appendix A. Narsese Grammar; Appendix B. NAL Inference Rules; Appendix C. NAL Truth-Value Functions; Appendix D. Proofs of Theorems; Bibliography; Index

Sommario/riassunto

This book provides a systematic and comprehensive description of Non-Axiomatic Logic, which is the result of the author's research for about three decades. Non-Axiomatic Logic is designed to provide a uniform logical foundation for Artificial Intelligence, as well as an abstract description of the "laws of thought" followed by the human mind. Different from "mathematical" logic, where the focus is the regularity required when demonstrating mathematical conclusions, Non-Axiomatic Logic is an attempt to return to the original aim of logic, that is, to formulate the regularity in actual human thin
