Inference on the Low Level: An Investigation into Deduction, Nonmonotonic Reasoning, and the Philosophy of Cognition (Hardback)

By Hannes Leitgeb

Springer-Verlag New York Inc., United States, 2004. Hardback. Condition: New. 2004 ed.. Language: English . Brand New Book ***** Print on Demand *****.In contrast to the prevailing tradition in epistemology, the focus in this book is on low-level inferences, i.e., those inferences that we are usually not consciously aware of and that we share with the cat nearby which infers that the bird which she sees picking grains from the dirt, is able to fly. Presumably, such inferences are not generated by explicit logical reasoning, but logical methods can be used to describe and analyze such inferences. Part 1 gives a purely system-theoretic explication of belief and inference. Part 2 adds a reliabilist theory of justification for inference, with a qualitative notion of reliability being employed. Part 3 recalls and extends various systems of deductive and nonmonotonic logic and thereby explains the semantics of absolute and high reliability. In Part 4 it is proven that qualitative neural networks are able to draw justified deductive and nonmonotonic inferences on the basis of distributed representations. This is derived from a soundness/completeness theorem with regard to cognitive semantics of nonmonotonic reasoning. The appendix extends the theory both logically and ontologically, and relates it...

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