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on Anticipation -- A Two-Level Model of Anticipation-Based Motor Learning for Whole Body Motion -- Space Perception through Visuokinesthetic Prediction -- Anticipatory Driving for a Robot-Car Based on Supervised Learning -- Computational Frameworks and Algorithms for Anticipation, and Their Evaluation -- Prediction Time in Anticipatory Systems -- Multiscale Anticipatory Behavior by Hierarchical Reinforcement Learning -- Anticipatory Learning Classifier Systems and Factored Reinforcement Learning.

Sommario/riassunto	Anticipatory behavior in adaptive learning systems continues to attract the attention of researchers in many areas, including cognitive systems, neuroscience, psychology, and machine learning. This book constitutes the thoroughly refereed post-workshop proceedings of the 4th International Workshop on Anticipatory Behavior in Adaptive Learning Systems, ABiALS 2008, held in Munich, Germany, in June 2008, in collaboration with 5th the six-monthly meeting of euCognition, 'The Role of Anticipation in Cognition'. The 18 revised full papers presented were carefully selected during two rounds of reviewing and improvement for inclusion in the book. The introductory chapter of this state-of-the-art survey not only provides an overview of the contributions included in this volume but also discusses the current various terminology employed in the field and relates it to the various system approaches. The papers are organized in topical sections on anticipation in psychology with a focus on the ideomotor view; theoretical and review contributions; anticipation and dynamical systems; computational modeling of psychological processes in the individual and social domains; behavioral and cognitive capabilities based on anticipation; and computational frameworks and algorithms for anticipation, and their evaluation.