

1. Record Nr.	UNISA996466069303316
Titolo	Spatial Cognition III [[electronic resource]] : Routes and Navigation, Human Memory and Learning, Spatial Representation and Spatial Learning // edited by Christian Freksa, Wilfried Brauer, Christopher Habel, Karl F. Wender
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2003
ISBN	3-540-45004-1
Edizione	[1st ed. 2003.]
Descrizione fisica	1 online resource (X, 422 p.)
Collana	Lecture Notes in Artificial Intelligence ; ; 2685
Disciplina	006.3/32
Soggetti	Artificial intelligence Earth sciences Data structures (Computer science) Computer simulation Natural language processing (Computer science) Artificial Intelligence Science, Humanities and Social Sciences, multidisciplinary Earth Sciences, general Data Structures Simulation and Modeling Natural Language Processing (NLP)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Routes and Navigation -- Navigating by Mind and by Body -- Pictorial Representations of Routes: Chunking Route Segments during Comprehension -- Self-localization in Large-Scale Environments for the Bremen Autonomous Wheelchair -- The Role of Geographical Slant in Virtual Environment Navigation -- Granularity Transformations in Wayfinding -- A Geometric Agent Following Route Instructions -- Cognition Meets Le Corbusier — Cognitive Principles of Architectural Design -- Human Memory and Learning -- The Effect of Speed Changes on Route Learning in a Desktop Virtual Environment -- Is It

Possible to Learn and Transfer Spatial Information from Virtual to Real Worlds? -- Acquisition of Cognitive Aspect Maps -- How Are the Locations of Objects in the Environment Represented in Memory? -- Priming in Spatial Memory: A Flow Model Approach -- Context Effects in Memory for Routes -- Spatial Representation -- Towards an Architecture for Cognitive Vision Using Qualitative Spatio-temporal Representations and Abduction -- How Similarity Shapes Diagrams -- Spatial Knowledge Representation for Human-Robot Interaction -- How Many Reference Frames? -- Motion Shapes: Empirical Studies and Neural Modeling -- Use of Reference Directions in Spatial Encoding -- Spatial Reasoning -- Reasoning about Cyclic Space: Axiomatic and Computational Aspects -- Reasoning and the Visual-Impedance Hypothesis -- Qualitative Spatial Reasoning about Relative Position -- Interpretation of Intentional Behavior in Spatial Partonomies.

Sommario/riassunto

Spatial cognition is an interdisciplinary research area involving artificial intelligence, cognitive psychology, computational linguistics, geography, mathematics, biology, theoretical computer science, architecture, design, and philosophy of mind. As these different disciplines gain a deeper understanding of their fellow disciplines and their research approaches, they increasingly find ways to combine their insights and to conceive powerful mechanisms to analyze and synthesize cognitive systems. Spatial cognition has now reached a point where we can see how different pieces of the puzzle may fit together to form integrated systems of specialized cognitive components. The research triggers new quests for basic issues of cognition and sparks ideas for the development of technological applications that make use of spatial structures and spatial computation. Potential applications can be found in such diverse areas as autonomous robotics, geographic information systems, locati- based services, spatial task assistance, multi-agent communication, to name but a few. This third volume on Spatial Cognition marks the final phase of the German Spatial Cognition Priority Program. It augments the results presented in the two precursor volumes published in 1998 and 2000, respectively. The interdisciplinary 1 research program was established by the Deutsche Forschungsgemeinschaft (DFG) in 1996 and terminated after six years, the maximum duration of DFG priority programs. The Spatial Cognition Priority Program consists of 17 research projects at 13 research institutions throughout Germany. Besides carrying out research in individual projects and joint research between projects, the program organized 'topical colloquia' and annual plenary colloquia, largely with international participation.
