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Titolo	Human symmetry perception and its computational analysis [[electronic resource] /] / editor, C.W. Tyler
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Altri autori (Persone)	TylerChristopher W
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Nota di contenuto	Book Cover; Title; Copyright; Contents; INTRODUCTION; Human symmetry perception; Part One: EMPIRICAL EVALUATION OF SYMMETRY PERCEPTION; Detection of visual symmetries; The role of pattern outline in bilateral symmetry detection with briefly flashed dot patterns; Detection and identification of mirror-image letter pairs in central and peripheral vision; Evidence for the use of scene-based frames of reference in two-dimensional shape recognition; Independence of bilateral symmetry detection from a gravitational reference frame Level of processing in the perception of symmetrical forms viewed from different anglesDeterminants of symmetry perception; Mirror symmetry detection: predominance of secondorder pattern processing throughout the visual field; Human discrimination of surface slant in fractal and related textured images; Part Two: THEORETICAL ISSUES IN SYMMETRY ANALYSIS; Detection of bilateral symmetry using spatial filters; Modelling symmetry detection with backpropagation networks; A network model for generating differential symmetry axes of shapes via receptive fields On the generalization of symmetry relations in visual pattern classificationA model for global symmetry detection in dense images;

Continuous symmetry: a model for human figural perception;
Quantification of local symmetry: application to texture discrimination;
A continuum of non-Gaussian self-similar image ensembles with white
power spectra; Symmetry as a depth cue; Symmetric 3D objects are an
easy case for 2D object recognition; Mirror symmetry and parallelism:
two opposite rules for the identity transform in space perception and
their unified treatment by the Great Circle Model
The generalized cone in human spatial organization

Sommario/riassunto

Symmetry is a fundamental principle of broad concern from the physical sciences to art and design. Much of its significance derives from the perceptual appeal of symmetry to the human brain, as testified by its universal inclusion in those icons of decor--oriental rugs. Although there have been many books on physical symmetry, none have addressed the issue of human symmetry perception. This comprehensive collection provides a wide range of approaches to the study of how we see symmetries, from evolutionary through empirical to extended theoretical treatments. The book is an invaluable resource
