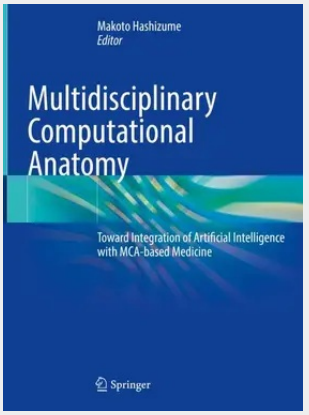
Hashizume

Multidisciplinary Computational Anatomy

Toward Integration of Artificial Intelligence with MCA-based Medicine



This volume thoroughly describes the fundamentals of a new multidisciplinary field of study that aims to deepen our understanding of the human body by combining medical image processing, mathematical analysis, and artificial intelligence. Multidisciplinary Computational Anatomy (MCA) offers an advanced diagnosis and therapeutic navigation system to help detect or predict human health problems from the micro-level to macro-level using a four-dimensional, dynamic approach to human anatomy: space, time, function, and pathology. Applying this dynamic and “living” approach in the clinical setting will promote better planning for – and more accurate, effective, and safe implementation of – medical management.
Multidisciplinary Computational Anatomy will appeal not only to clinicians but also to a wide readership in various scientific fields such as basic science, engineering, image processing, and biomedical engineering. All chapters were written byrespected specialists and feature abundant color illustrations. Moreover, the findings presented here share new insights into unresolved issues in the diagnosis and treatment of disease, and into the healthy human body.

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