



3D Puzzle-Solving Resconstruction System Of Fractured Bones

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Condition: New. Publisher/Verlag: Scholar's Press | Making quantitative fracture severity possible with novel 3D puzzle-solving computer algorithms | High energy impacts at joint locations often generate highly fragmented, or comminuted, bone fractures. A leading current approach for treatment requires physicians qualitatively to classify the fracture to one of four possible fracture severity cases. It has been observed that qualitative evaluation of fracture severity by physicians can vary significantly which can lead to potential misclassification and mistreatment of these fracture cases. The system described in this book applies novel three-dimensional (3D) puzzle-solving algorithms to identify the fracture fragments in the CT image data and piece them back together in a virtual environment. Doing so provides quantitative values for both fracture surface area and dispersion that reduce variability in fracture severity classifications and prevent mis-diagnosis for fracture cases that may be difficult to qualitatively classify using traditional approaches. This book describes the system, the underlying algorithms and demonstrates the virtual reconstruction results and quantitative analysis of comminuted bone fractures from six clinical cases. | Format: Paperback | Language/Sprache: english | 160 pp.



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