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Computer aided scoliosis evaluation and recovery using an intelligent optical 3D sensor

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Book Group Author(s): **IEEE**

2015 IEEE 10TH JUBILEE INTERNATIONAL SYMPOSIUM ON APPLIED COMPUTATIONAL INTELLIGENCE AND INFORMATICS (SACI)

Pages: 43-47

Published: 2015

Conference

Conference: 10th Jubilee IEEE International Symposium on Applied Computational Intelligence and Informatics

Location: Timisoara, ROMANIA

Date: MAY 21-23, 2015

Abstract

This paper suggests a novel method to evaluate the progress of the scoliotic patients. The scoliosis is an affection that deviates in a three dimensional plan the patient's spinal cord. Today the severity of the scoliosis is determined by the Cobb angles on the x-ray. Our method uses the Kinect sensor that can capture in a 3 dimensional plane the joints of the human body. Using the joint's position in the 3D plane, the relative angles of key joints to a predetermined point is measured. Using these angles the system calculates the severity of the scoliosis. On the same principle we suggest a system that can monitor the patient's exercises during the treatment.

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Publisher

IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA

Categories / Classification

Research Areas: Computer Science; Engineering

Web of Science Categories: Computer Science, Artificial Intelligence; Computer Science, Theory & Methods; Engineering, Electrical & Electronic

Document Information

Document Type: Proceedings Paper

Language: English

Accession Number: WOS:000380397800009

ISBN: 978-1-4799-9911-8

Other Information

Citation Network

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