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

By: [Nadasan, EG](#) (Nadasan, Emanuela Gal)^[1]; [Gal, N](#) (Gal, Norbert)^[2]; [Crisan-Vida, M](#) (Crisan-Vida, Mihaela)^[2]; [Nemes, D](#) (Nemes, Dan)^[1]; [Andrei, D](#) (Andrei, Diana)^[1]

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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.

Author Information

Reprint Address: Nadasan, EG (reprint author)

Univ Med & Farm Timisoara, Timisoara, Romania.

Addresses:

[1] Univ Med & Farm Timisoara, Timisoara, Romania

+ [2] Politehn Univ Timisoara, Timisoara, Romania

E-mail Addresses: emma.nadasan@gmail.com; norbert.gal@aut.upt.ro; mihaela.vida@aut.upt.ro; nemes.dan@gmail.com; andreidiana81@gmail.com

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