

# A Method of Constructing Custom 3D Bone Model

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## Technology description

### 1. Technical overview

This technique can easily, quickly and economically make 3D human bone models customized by patients according to the sample model.

### two. The impact of technology

There is no need for a large number of CT images which can significantly reduce the amount of radiation received by patients.

3D human bone models can be reconstructed cheaply.

Time and effort can be reduced because CAD work and hourly partitions are not required.

### 3. Technical content

A free shape transformation technique that generates the desired model by modifying an existing 3D model:

A) step 1: enter an X-ray 2D image of the body bone of the patient,

B) step 2: use an X-ray 2D image to calculate the actual size of the patient's bone,

C) step 3: create a 2D image projected on a plane,

D) step 4: apply the image from step 3 to the 3D human bone sample model to convert it to the patient's 3D bone model.

## Application area

Energy generation (ultrasound, high magnetic field, X-ray, etc.), detector manufacturing, image and signal processing technology software

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