

Table 1 Overview of the two datasets acquired by two ultrasound transducers (UT).

Ultrasound Transducer	Manufacturer	Imaging Frequency and Depth	Tracking System	Manufacturer	Tracking Resolution
UT1: C3 HD	Clarius, Canada	2-5MHz / 6 cm	G4	Polhemus, USA	2.0 mm / 0.5°
UT2: C5-2/60	BK Medical, SonixONE,USA	2.5MHz / 6 cm	driveBAY	NDI, Canada	1.4 mm / 0.5°

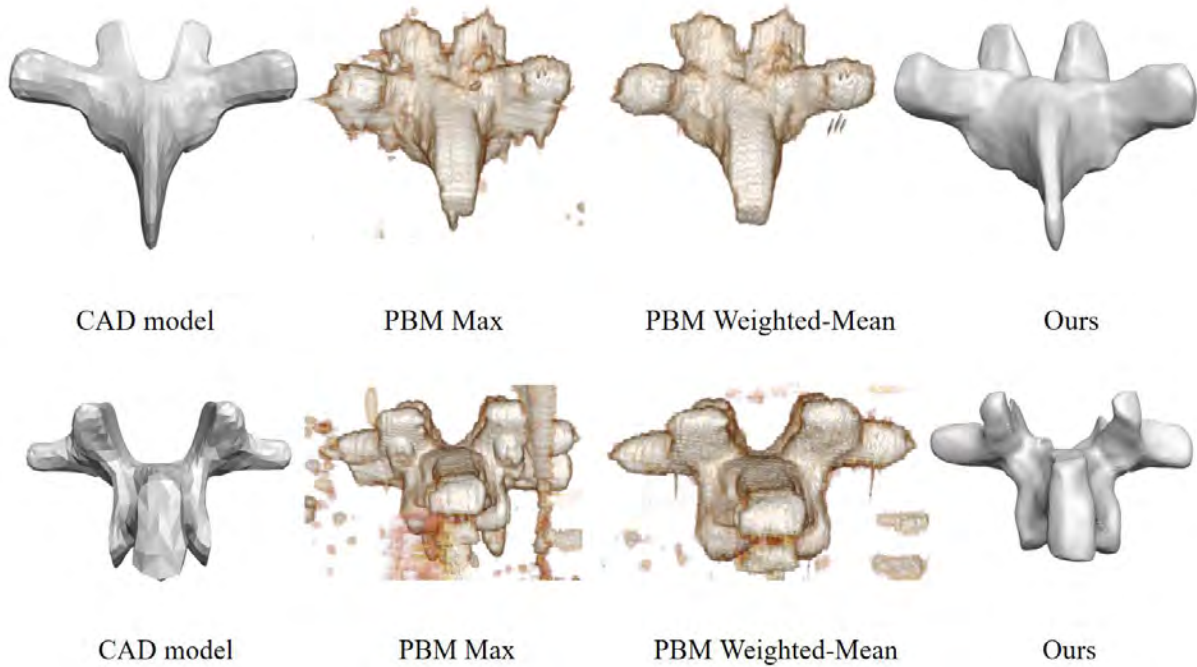


Figure 1. The results of thoracic vertebra T4 and lumbar vertebra L1 from UT1. Qualitatively comparison between the proposed approach through surface rendering and traditional intensity compounding method through volume rendering. The traditional method is implemented based on Pixel-based Method (PBM) using different weighted protocols.

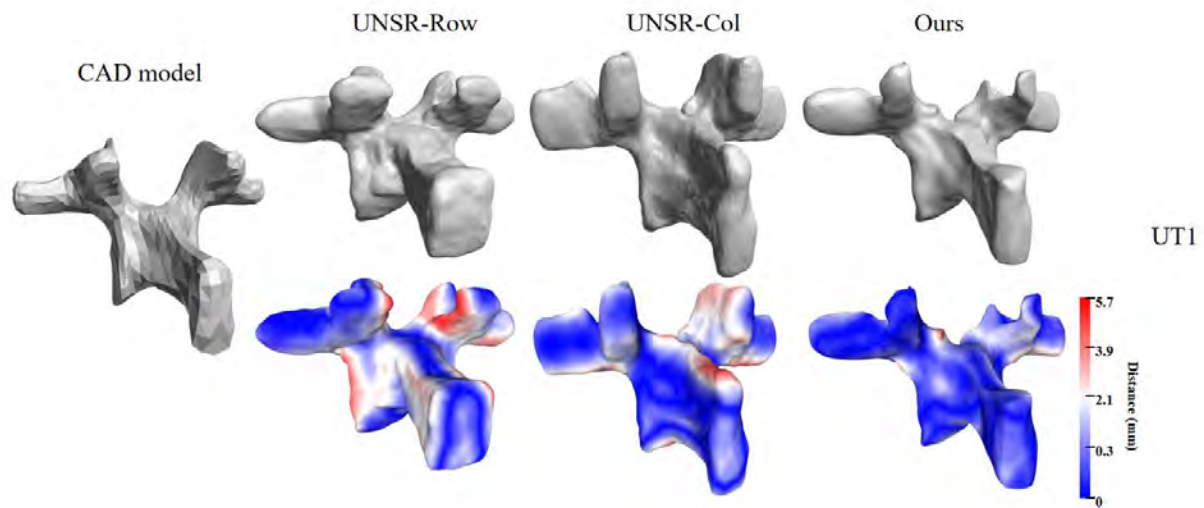


Figure 2. The results of lumbar vertebra L1 from UT1.

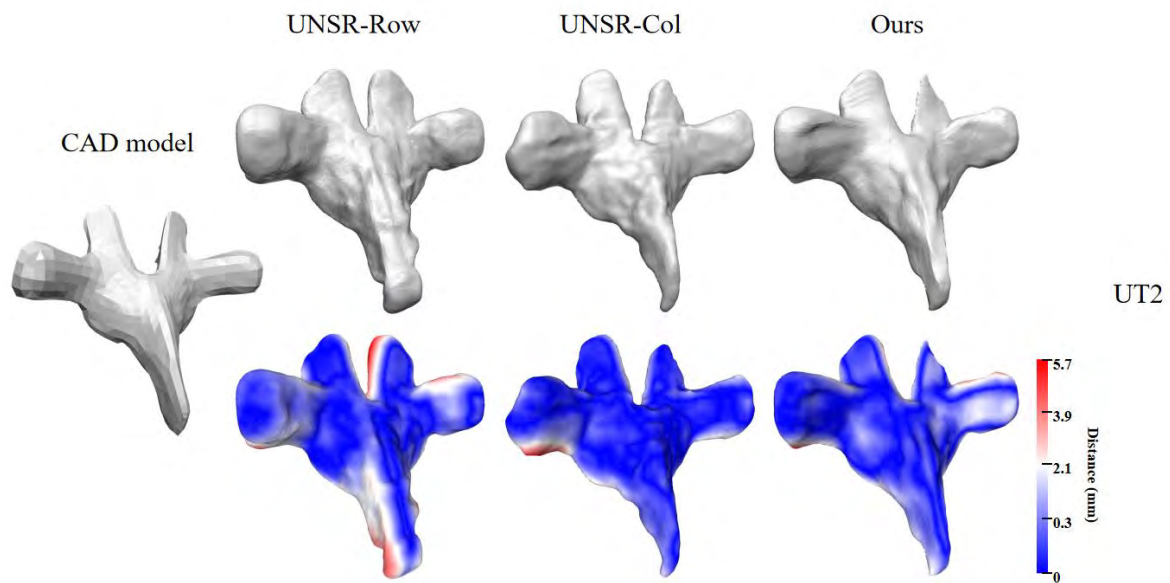


Figure 3. The results of thoracic vertebra T4 from UT2.