Table 1: A subset of liver volume estimated by radiologists using Child's method (US Vol), CT segmentation (CT Vol), and the volumes computed using the proposed method (Our Vol).

Our Vol (cm^3)	CT Vol(cm^3)	US Vol(cm^3)
1255.22	1304.27	1044.14
1014.14	1037.34	822.76
1348.95	1337.44	1233.43
1074.53	1099.67	840.11
1243.36	1197.06	820.36

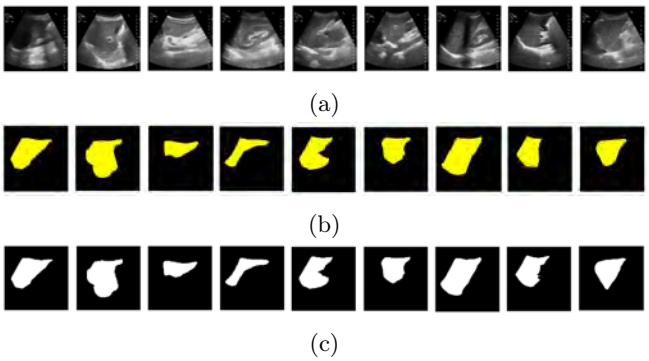


Fig. 1: US image segmentation results. (a) US images (b) Ground truth liver annotations (c) TransUNet network liver predictions. TransUNet performs generally well compared to other segmentation models.

Table 2: US & CT Device Specifications: The US and CT devices used in our study are listed with the details.

Modality	Device	Details
US	Portable C30C, Micro Color, Doppler US System	Manufactured by Healson Technology Co., Ltd., with a 3.5 MHz (ranging 2.5 MHz - 4.5 MHz) curvilinear abdominal probe (certified under Annexure H - CE MDD ISO 13485:2016)
CT	Toshiba Aquilion 16 slice CT Scanner	OsiriX medical imaging software package

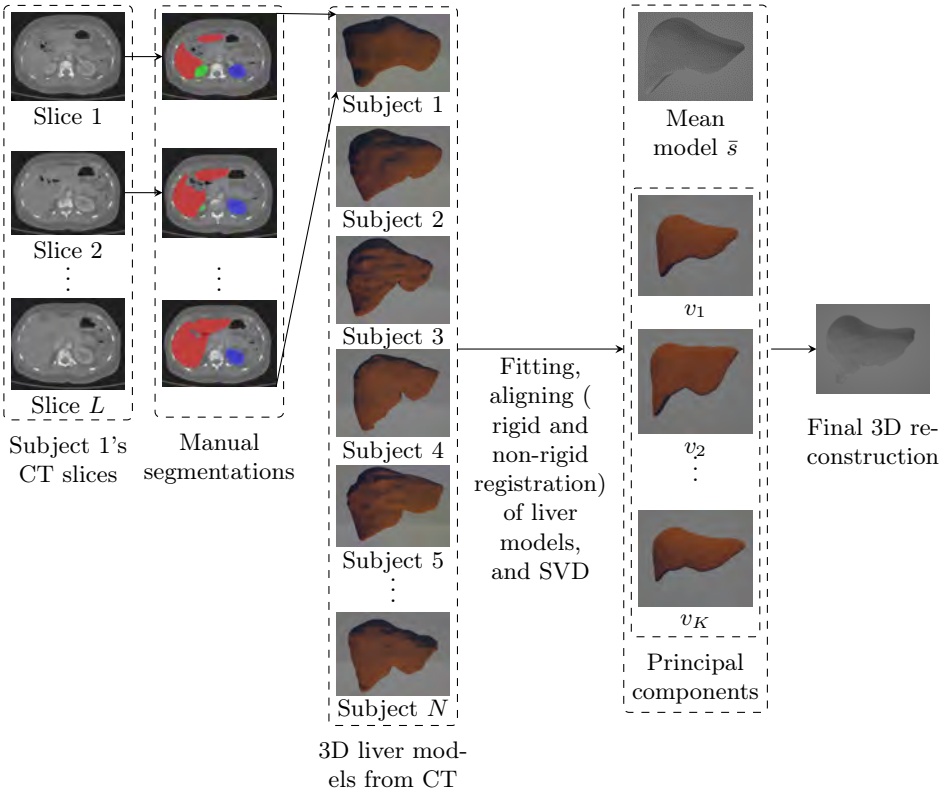
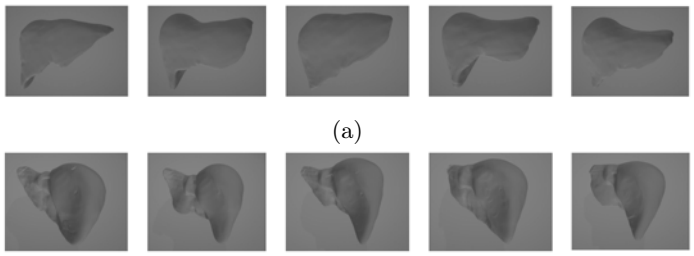


Fig. 2: Visual representation of Statistical Shape Model (SSM) construction leading to final 3D model reconstruction. After aligning multiple 3D liver meshes, PCA produces the mean shape and the principal components. These, along with the shape parameters, can construct a 3D liver. Our parametric regression network predicts the shape parameters that would make this reconstructed 3D model match the masks generated from the three US scans.



(a)

(b)

Fig. 3: Reconstructed 3D liver shapes. (a) and (b) represent the front view and back view of the generated liver shapes. Our architecture can handle complex edges.