


SDFPlane: Explicit Neural Surface Reconstruction of Deformable Tissues

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1 Dataset Information

Table 1. Details of endoscope datasets used in the experiments.

Scene ID	Dataset	Numbers of Image	Image resolution	Depth source	Scene	Camera
ENDONERF-cutting	ENDONERF	156	640 x 512	STTR-L	Dynamic	Fixed
ENDONERF-pulling	ENDONERF	63	640 x 512	STTR-L	Dynamic	Fixed
P2_1	StereoMIS	100	640 x 512	StereoMIS	Dynamic	Fixed
P2_8	StereoMIS	100	640 x 512	StereoMIS	Dynamic	Fixed

2 Hyperparameters

Table 2. Hyperparameters used in this work

Training		Loss		Network Structure	
Parameters	Value	Parameters	Value	Parameters	Value
Number of rays per iteration	2048	Color loss weight	1.0	color-MLP depth	2
Total Iterations	9600	Depth loss weight	1.0	color-MLP width	64
Learning rate	0.01	Eikonal loss weight	0.001	color-MLP Activation	ReLU
Warm up iteration	2000	1D smooth loss	0.0001	SDF-MLP depth	1
Initial weight β of error map	0.0003	2D TV loss weight	0.0001	SDF-MLP width	64
Initial value of variance	0.35			SDF-MLP Activation	ReLU
				Grid resolutions	64, 128, 256, 512
				extracted feature dim	16

Hao Li and Jiwei Shan—Equal contribution.