

# Spatio-temporal neural distance fields for conditional generative modeling of the heart

Kristine Sørensen<sup>1</sup>, Paula Diez<sup>1</sup>, Jan Margeta<sup>2</sup>, Yasmin El Youssef<sup>3</sup>, Michael Pham<sup>3</sup>, Jonas Jalili Pedersen<sup>3</sup>, Tobias Kühl<sup>3,4</sup>, Ole de Backer<sup>3</sup>, Klaus Kofoed<sup>3</sup>, Oscar Camara<sup>5</sup>, and Rasmus Paulsen<sup>1</sup>

<sup>1</sup> DTU Compute, Technical University of Denmark, Kongens Lyngby, Denmark

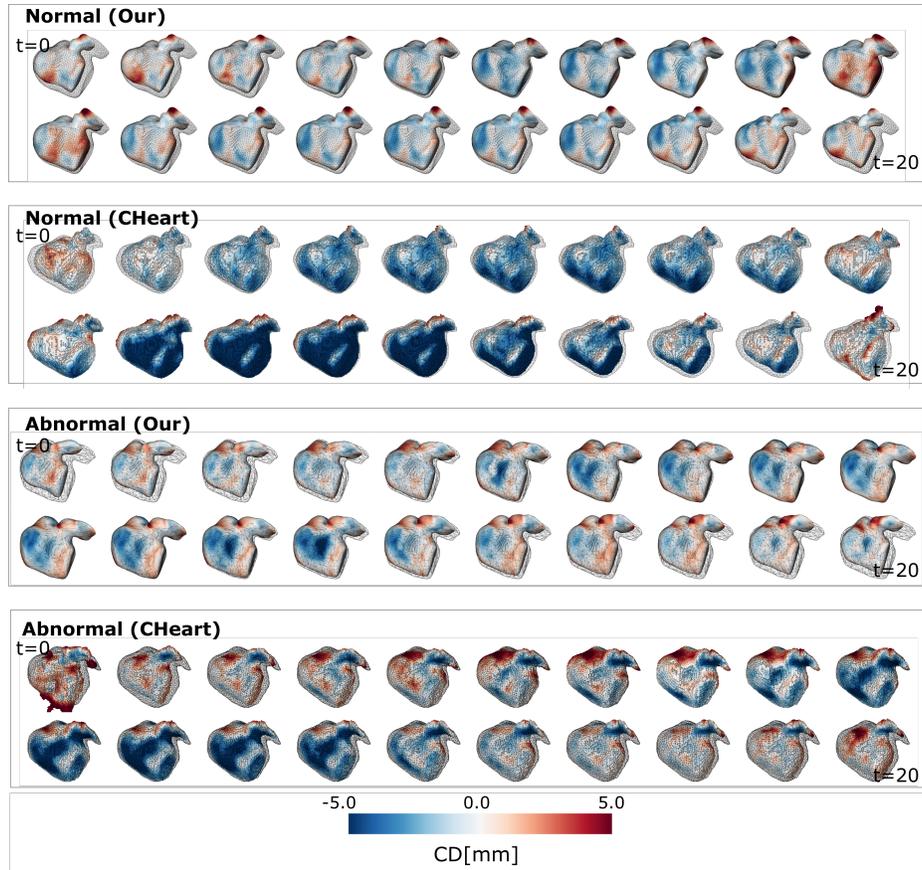
<sup>2</sup> KardioMe, Research & Development, Nova Dubnica, Slovakia

<sup>3</sup> Heart center, Rigshospitalet, Copenhagen, Denmark

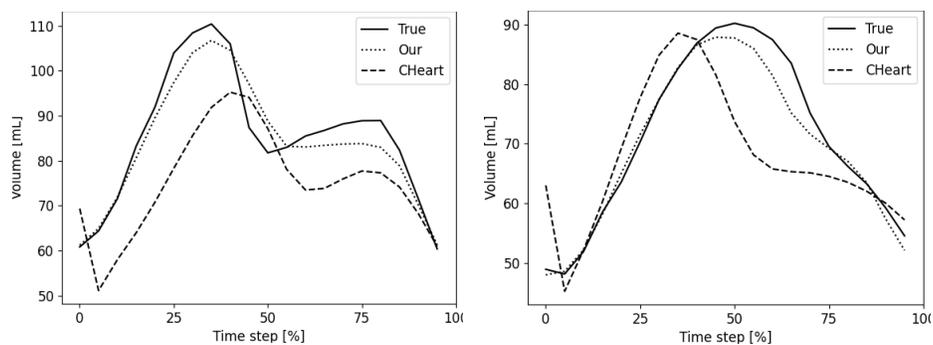
<sup>4</sup> Dep. of Cardiology, Zealand University Hospital, Denmark

<sup>5</sup> Physense, BCN MedTech, Universitat Pompeu Fabra, Barcelona, Spain  
kajul@dtu.dk

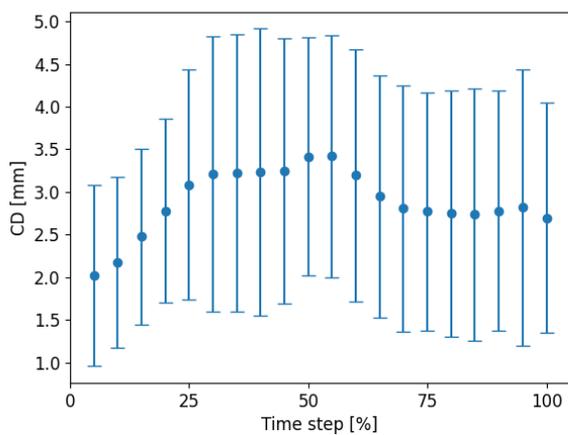
## 1 Supplementary material



**Fig. 1.** Completion results for all 20 time frames from our method and CHearT on the same two examples as Figure 2 (main paper) showing the chamfer distance CD between the true and predicted surfaces. See also "Normal\_our.mp4", "Normal\_CHearT.mp4", "Abnormal\_our.mp4", "Abnormal\_CHearT.mp4" for videos of the dynamic sequences.



**Fig. 2.** Volume curves comparing our method to state-of-the-art method (CHearT) on normal atrial motion (left) and abnormal atrial motion (right) for the same samples as Figure 2 in the main paper.



**Fig. 3.** Completion results showing the average chamfer distance (CD) between the true and completed surfaces evaluated separately for each of the 20 time frames across the test set.