

We ran Task 3 and Task 5 of the CHAOS challenge with an internal variant of nnU-Net [1]. These tasks need to process T1 in and out phase images as well as T2 images. While the T1 images are registered and can be used as separate color channel inputs, we did not choose to do so because this would have required substantial modification to nnU-Net (2 input modalities for T1, 1 input modality for T2). Instead, we treat T1 in and T1 out as separate training examples, resulting in a total of 60 training examples for the aforementioned tasks. We do not use external data.

Task 3 is a subset of Task 5, so training was only one once and the predictions for Task 3 were generated by isolating the Liver label.

The submitted predictions are a result of an ensemble of three 3D U-Nets ('3d_fullres' configuration of nnU-Net). The five models originate from a cross-validation on the training cases. Furthermore, since only one prediction is accepted for both T1 image types, we ensemble the predictions of T1 in and T1 out.

[1] Isensee, Fabian, et al. "nnU-Net: Breaking the Spell on Successful Medical Image Segmentation." arXiv preprint arXiv:1904.08128 (2019).