

Appendix 1

The architecture design of the V-Net model for the segmentation of lobes (Figure S1). It illustrates the network architecture of the three-dimensional (3D) V-Net model used in this study, which was designed based on the original V-Net model. The network consists of a compression path on the left and a decompression path on the right. Each compression path is divided into five stages, each containing one to four convolutional layers. In each stage, the input dimensions of $112 \times 112 \times 144$ are processed by the convolutional layers, and their outputs are added to the output of the last convolutional layer in that stage. This approach enables the network to learn a residual function. On the right side of the network, four stages operate at different resolutions to facilitate the decompression process. The ultimate output of the model is the segmentation of the five lobes. During training, the model used the Adam optimizer and the dice loss function. The training was performed over 300 epochs, with an initial learning rate of $1e-3$, which was reduced to $1e-4$ after 150 epochs.

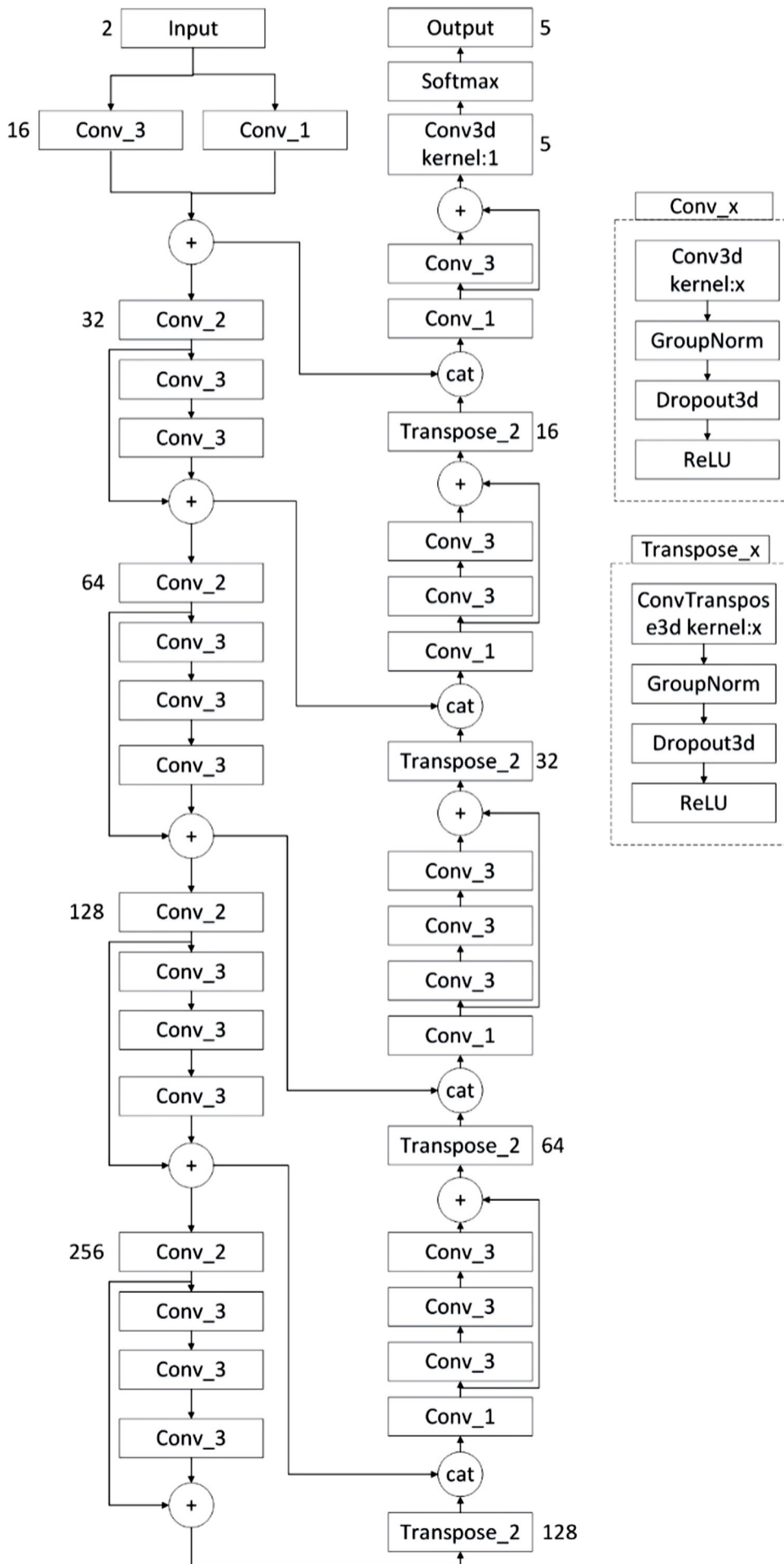


Figure S1 The architecture design of the V-Net model for the segmentation of the lobes.