SUPPLEMENTARY MATERIAL FOR "FAN-NET: FOURIER-BASED ADAPTIVE NORMALIZATION FOR CROSS-DOMAIN STROKE LESION SEGMENTATION"

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1. MORE DETAILS ABOUT DATASET AND IMPLEMENTATION

All the experiments are performed on the benchmark stroke lesion dataset ATLAS. As Table S1 shows, this dataset consists of 229 patients' T1-weighted MR images, involving three countries and eight cities. What's more, there are no test-retest scans among inter- or intra-sites, except for site 8 including 9 test-retest, where there is no impact on the "leave-one-site-out" validation.

In our experiments, the segmentation backbone of the model is U-Net, and one convolutional block consists of a $\{3 \times 3$ convolution, batch normalization, and ReLU activation$\}$, and the structural details are presented in Table S3.

Table S1. The information of the 9 sites of ATLAS dataset.

	Site	Location	# Patients
1	University of Southern California	Los Angeles, USA	55
2	University of California	Irvine, USA	34
3	University of Tübingen	Tübingen, Germany	27
4	Sunnaas Rehabilitation Hospital	Nesodden, Norway	12
5	Oslo University Hospital	Oslo, Norway	27
6	University of Oslo	Oslo, Norway	14
7	Nathan S. Kline Institute for Psychiatric Research	Orangeburg, USA	11
8	University of Texas Medical Branch	Galveston, USA	35
9	University of Michigan	Ann Arbor, USA	14

2. MORE ABLATION STUDIES

Qualitative output of FAN. We randomly selected one slice through FAN with various α, and the comparison results are shown in Fig. S1. Compared with Fig. S1(b), some textures related to the high-frequency amplitude component are missed in Fig. S1(c). Consequently, a suitable value for α is essential.

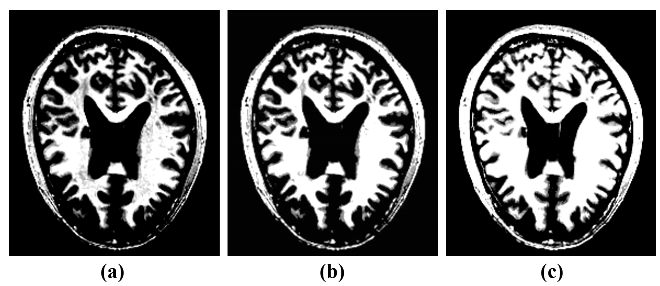

Fig. S1. The comparison of one MR image processed by FAN with various α values: (**a**) Origin MR image; (**b**) α = 0.1; (**c**) α = 0.2.

Effects of λ values. Here we investigate the weight of Domain loss, the results obtained by different λ values are shown in Table S2. In our experiments, λ was set to 1.

Table S2. Ablation study on varying values of λ.

λ	Dice	Recall	F1-score
0.2	0.4454	0.4529	0.4851
0.5	0.4823	0.4353	0.5070
1	**0.5098**	**0.5117**	**0.5484**
1.5	0.4597	0.4439	0.5003

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Table S3. Details on the structure of U-Net.

	Feature size	**Parameters**
Input	$1 \times 224 \times 96$	
Conv 1	$64 \times 224 \times 96$	[3×3, 64 conv] $\times$ 2[a]
Pooling	$64 \times 112 \times 48$	[2×2, max pooling][b]
Conv 2	$128 \times 112 \times 48$	[3×3, 128 conv] $\times$ 2
Pooling	$128 \times 56 \times 24$	[2×2, max pooling]
Conv 3	$256 \times 56 \times 24$	[3×3, 256 conv] $\times$ 2
Pooling	$256 \times 28 \times 12$	[2×2, max pooling]
Conv 4	$512 \times 28 \times 12$	[3×3, 512 conv] $\times$ 2
Pooling	$512 \times 14 \times 6$	[2×2, max pooling]
Conv 5	$1024 \times 14 \times 6$	[3×3, 1024 conv] $\times$ 2
Upsampling	$1024 \times 28 \times 12$	[2×2, upsampling]-[Conv 4][c]
Conv 6	$512 \times 28 \times 12$	[3×3, 512 conv] $\times$ 2
Upsampling	$512 \times 56 \times 24$	[2×2, upsampling]-[Conv 3]
Conv 7	$256 \times 56 \times 24$	[3×3, 256 conv] $\times$ 2
Upsampling	$256 \times 112 \times 48$	[2×2, upsampling]-[Conv 2]
Conv 8	$128 \times 112 \times 48$	[3×3, 128 conv] $\times$ 2
Upsampling	$128 \times 224 \times 96$	[2×2, upsampling]-[Conv 1]
Conv 9	$64 \times 224 \times 96$	[3×3, 64 conv] $\times$ 2
Output	$1 \times 224 \times 96$	[1×1, 1 conv]+Sigmoid

[a] [3×3, 64 conv] corresponds to a convolution with a kernel size of 3×3 and channel of 64.
[b] [2×2, max pooling] denotes max pooling with a kernel size of 2×2.
[c] [2×2, upsampling] indicates upsampling the feature maps to be with the height and width are twice as large as the original, then a convolution layer of kernel size 1×1 is attached for adjusting the number of channels; [ ]-[ ] denotes the concatenation of two feature maps.