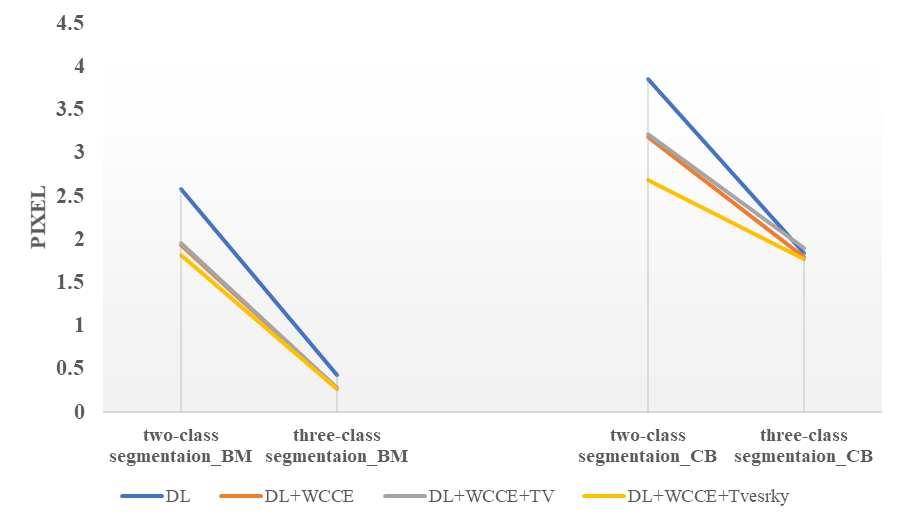
Supplementary for manuscript titled:

**“Automatic Choroid Vascularity Index Calculation in Optical Coherence Tomography Images with Low Contrast Sclerochoroidal Junction Using Deep Learning”**

This supplementary provides detailed information about the experimental results by comparing two-class and three-class approaches and applying different batch sizes, and diverse input image sizes (64×64, 128×128 and 256×256). Tables S2–S6 look for the best values of batch size and input image size and these selected values are used for the rest of the analysis in result section of the manuscript.



**Figure S1.** Un-signed error of different loss functions in two-class and three-class segmentation for Pachychoroid spectrum patients’ dataset (in pixel)



**Figure S2.** Un-signed error of different loss functions in two-class and three-class segmentation for diabetic retinopathy dataset (in pixel)

**Table S1**. Mean signed and unsigned error for different batch sizes in diabetic retinopathy data (errors are reported in micrometers where the height of B-scans for diabetic retinopathy dataset are 1500 µm and the input image size is fixed to 128×128).

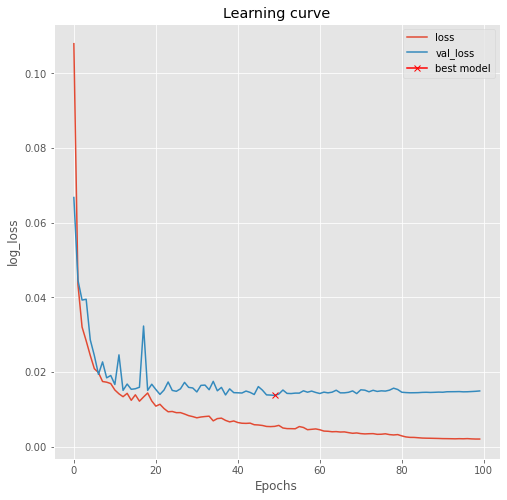
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Batch size | BM boundary | | Sclerochoroidal boundary | |
| U\_E | S\_E | U\_E | S\_E |
| 4 | 3.75 | -3 | 21.15 | -1.65 |
| **8** | **3** | **0.15** | **20.7** | **0.15** |
| 12 | 3.6 | -2.25 | 26.85 | -12.6 |
| 16 | 3.3 | 0.3 | 21.6 | -0.3 |
| 20 | 3.3 | -0.3 | 22.65 | 0.9 |

**Table S2.** Mean signed and unsigned error for different input image sizes in diabetic retinopathy data (errors are reported in micrometers where the height of B-scans for diabetic retinopathy dataset are 1500 µm)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Input image size | BM boundary | | Sclerochoroidal boundary | |
| U\_E | S\_E | U\_E | S\_E |
| 64×64 | 6 | -5.1 | 33.45 | -12.3 |
| 128×128 | 3 | 0.15 | 20.76 | 0.15 |
| **256×256** | **2.7** | **-0.15** | **20.71** | **-0.15** |

**Table S3**. Mean signed and unsigned error for the best batch size (8 according to Table S1) and best input image size (256×256 according to Table S2) in diabetic retinopathy data (errors are reported in micrometers where the height of B-scans for diabetic retinopathy dataset are 1500 µm)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Input image size | BM boundary | | Sclerochoroidal boundary | |
| U\_E | S\_E | U\_E | S\_E |
| 256×256 | 2.55 | -0.15 | 19.65 | -6.9 |



**Figure S3.** Training and validation losses of modified U-Net in diabetic retinopathy data

**Table S4.** Mean signed and unsigned error for different batch sizes in pachychoroid spectrum data (errors are reported in micrometers where the height of B-scans for pachychoroid spectrum dataset are 1500 µm and the input image size is fixed to 128×128).

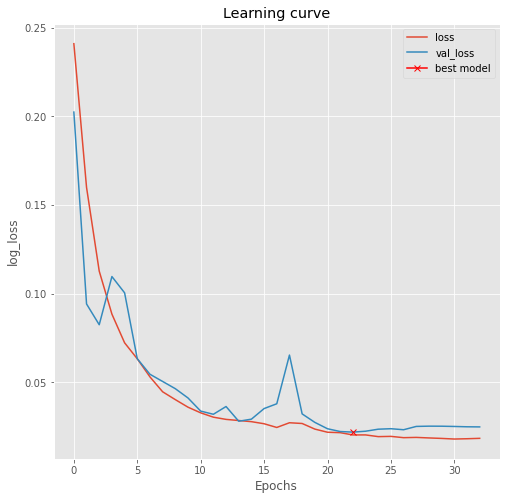
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Batch size | BM boundary | | Sclerochoroidal boundary | |
| U\_E | S\_E | U\_E | S\_E |
| 4 | 21.84 | -16.5 | 77.7 | 1.2 |
| **8** | **21.3** | -14.4 | **76.5** | -25.5 |
| 12 | 21.78 | -15.3 | 91.2 | 31.8 |
| 16 | 24.9 | -24.3 | 77.7 | -18.3 |
| 20 | 21.78 | -16.8 | 86.1 | 28.8 |

**Table S5.** Mean signed and unsigned error for different input image sizes pachychoroid spectrum data (errors are reported in micrometers where the height of B-scans for pachychoroid spectrum data are 3000 µm)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Input image size | BM boundary | | Sclerochoroidal boundary | |
| U\_E | S\_E | U\_E | S\_E |
| 64×64 | 42.3 | -15 | 148.8 | 97.8 |
| 128×128 | 21.3 | -14.4 | 76.5 | -25.5 |
| **256×256** | **12.9** | -1.5 | **71.1** | 41.1 |

**Table S6.** Mean signed and unsigned error for the best batch size (8 according to Table S1) and best input image size (256×256 according to Table S2) in pachychoroid spectrum data (errors are reported in micrometers where the height of B-scans for pachychoroid spectrum data are 3000 µm)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Input image size | BM boundary | | Sclerochoroidal boundary | |
| U\_E | S\_E | U\_E | S\_E |
| **256×256** | **11.7** | -6.3 | **52.5** | 24.3 |



**Figure S4.** Training and validation losses of modified U-Net in pachychoroid spectrum data