|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **patch\_size** | train\_mean\_iou | val\_mean\_iou | | | val\_melt\_pond\_iou | val\_sea\_ice\_iou | val\_ocean\_iou |
|  | best average | best average (epoch) | epoch 99 | std best average | best average | best average | best average |
| 32 | 0.955 | 0.555 (65) | 0.528 | 0.083 | 0.373 | 0.873 | 0.419 |
| 64 | 0.907 | 0.662 (23) | 0.607 | 0.116 | 0.489 | 0.919 | 0.579 |
| 128 | 0.939 | 0.729 (34) | 0.707 | 0.123 | 0.57 | 0.935 | 0.682 |
| 256 | 0.874 | 0.659 (14) | 0.579 | 0.140 | 0.479 | 0.846 | 0.651 |
| 480 | 0.927 | **0.762** (59) | 0.737 | 0.083 | 0.558 | 0.929 | 0.797 |

Values are rounded to three after the comma. Best average refers to val\_mean\_iou, also in case of per class values (as this is the metric we based our selection on). Std = standard deviation. We colored the column that served as selection criterion.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **loss** | train\_mean\_iou | val\_mean\_iou | | | val\_melt\_pond\_iou | val\_sea\_ice\_iou | val\_ocean\_iou |
|  | best average | best average | epoch 99 | std best average | best average | best average | best average |
| categorical\_cross\_entropy | 0.927 | 0.762 (59) | 0.737 | 0.083 | 0.558 | 0.929 | 0.797 |
| focal | 0.824 | 0.646 (99) | 0.646 | 0.109 | 0.393 | 0.856 | 0.687 |
| focal\_dice | 0.945 | **0.797 (37)** | 0.751 | 0.109 | 0.630 | 0.916 | 0.825 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **dropout** | train\_mean\_iou | val\_mean\_iou | | | val\_melt\_pond\_iou | val\_sea\_ice\_iou | val\_ocean\_iou |
|  | best average | best average | epoch 99 | std best average | best average | best average | best average |
| no\_dropout | 0.945 | 0.797 (37) | 0.751 | 0.109 | 0.630 | 0.916 | 0.825 |
| dropout | 0.93 | **0.822 (54)** | 0.807 | 0.106 | 0.679 | 0.941 | 0.846 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **pretraining** | train\_mean\_iou | val\_mean\_iou | | | val\_melt\_pond\_iou | val\_sea\_ice\_iou | val\_ocean\_iou |
|  | best average | best average | epoch 99 | std best average | best average | best average | best average |
| fine\_tune\_all | 0.93 | **0.822 (54)** | 0.807 | 0.106 | 0.679 | 0.941 | 0.846 |
| freeze\_encoder | 0.904 | 0.787 (32) | 0.769 | 0.115 | 0.63 | 0.924 | 0.809 |
| no\_pretraining | 0.939 | 0.712 (95) | 0.709 | 0.178 | 0.467 | 0.909 | 0.760 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **augment\_method** | train\_mean\_iou | val\_mean\_iou | | | val\_melt\_pond\_iou | val\_sea\_ice\_iou | val\_ocean\_iou |
|  | best average | best average | epoch 99 | std best average | best average | best average | best average |
| flip | 0.873 | 0.778 (71) | 0.739 | 0.054 | 0.586 | 0.920 | 0.827 |
| rotate | 0.858 | **0.784 (58)** | 0.7 | 0.064 | 0.594 | 0.932 | 0.826 |
| crop |  |  |  |  |  |  |  |
| brightness\_contrast |  |  |  |  |  |  |  |
| sharpen\_blurr |  |  |  |  |  |  |  |
| gaussian\_noise |  |  |  |  |  |  |  |
| flip\_and\_rotate | 0.821 | 0.734 (50) | 0.597 | 0.085 | 0.52 | 0.895 | 0.787 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Augment\_technique** | train\_mean\_iou | val\_mean\_iou | | | val\_melt\_pond\_iou | val\_sea\_ice\_iou | val\_ocean\_iou |
|  | best average | best average | epoch 99 | std best average | best average | best average | best average |
| onfly | 0.821 | 0.734 (50) | 0.597 | 0.085 | 0.52 | 0.895 | 0.787 |
| offline | 0.879 | **0.796 (15)** | 0.749 | 0.090 | 0.637 | 0.927 | 0.823 |

Augmentation mode 6 (flip and rotate). We used a combination of the two best performing methods to avoid duplicated in offline augmentation (will be increased by factor 3).

TeamViewer to do:

* Weights:
* Stats: final runs, augment 2-5