

**Table 2:** Evaluation of Wasserstein-Filtered Data Augmentation on ISIC 2018 Dataset

Gen	Model	Acc	Prec	Rec	F1	Gen	Model	Acc	Prec	Rec	F1
<b>3</b>	Augmented	60.00	58.73	60.00	57.79	<b>18</b>	Augmented	48.57	61.77	48.57	47.52
	Wass	<b>62.86</b>	<b>63.48</b>	<b>62.86</b>	<b>61.07</b>		Wass	<b>58.57</b>	<b>57.51</b>	<b>58.57</b>	<b>57.38</b>
<b>6</b>	Augmented	45.71	45.69	45.71	44.48	<b>21</b>	Augmented	47.14	51.16	47.14	47.73
	Wass	<b>57.14</b>	<b>63.81</b>	<b>57.14</b>	<b>56.76</b>		Wass	<b>64.29</b>	<b>65.19</b>	<b>64.29</b>	<b>63.63</b>
<b>9</b>	Augmented	50.00	52.90	50.00	50.10	<b>24</b>	Augmented	55.71	52.91	55.71	51.67
	Wass	<b>55.71</b>	<b>59.18</b>	<b>55.71</b>	<b>53.73</b>		Wass	<b>64.29</b>	<b>65.37</b>	<b>64.29</b>	<b>63.91</b>
<b>Baseline (Avg.)</b>		52.32	56.64	52.32	51.88						

Performance metrics (%) on a 7-class skin cancer image dataset (ISIC 2018) [1] with 1,257 original training samples and varying numbers of generated images (Gen) from SD-XL, mixed at **strength=0.15** and **strength=0.8** (default: 0.75). Higher strength increases diversity but introduces suboptimal samples, requiring Wass filtering. Baseline: original samples (averaged across tasks); Augmented: unfiltered generated data; Wass: Wasserstein-filtered data, retaining the top 60% of images. Wass consistently enhances performance over the baseline.

[1] *ISIC 2018: The International Skin Imaging Collaboration: A Resource for Skin Cancer Research*, arXiv:1807.07543.