Corrigendum: Extraction of stratigraphic exposures on visible images using a supervised machine learning technique

Rina Noguchi[1]* and Daigo Shoji[2]

[1]Faculty of Science, Niigata University, Niigata, Japan, [2]Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency, Sagamihara, Kanagawa, Japan
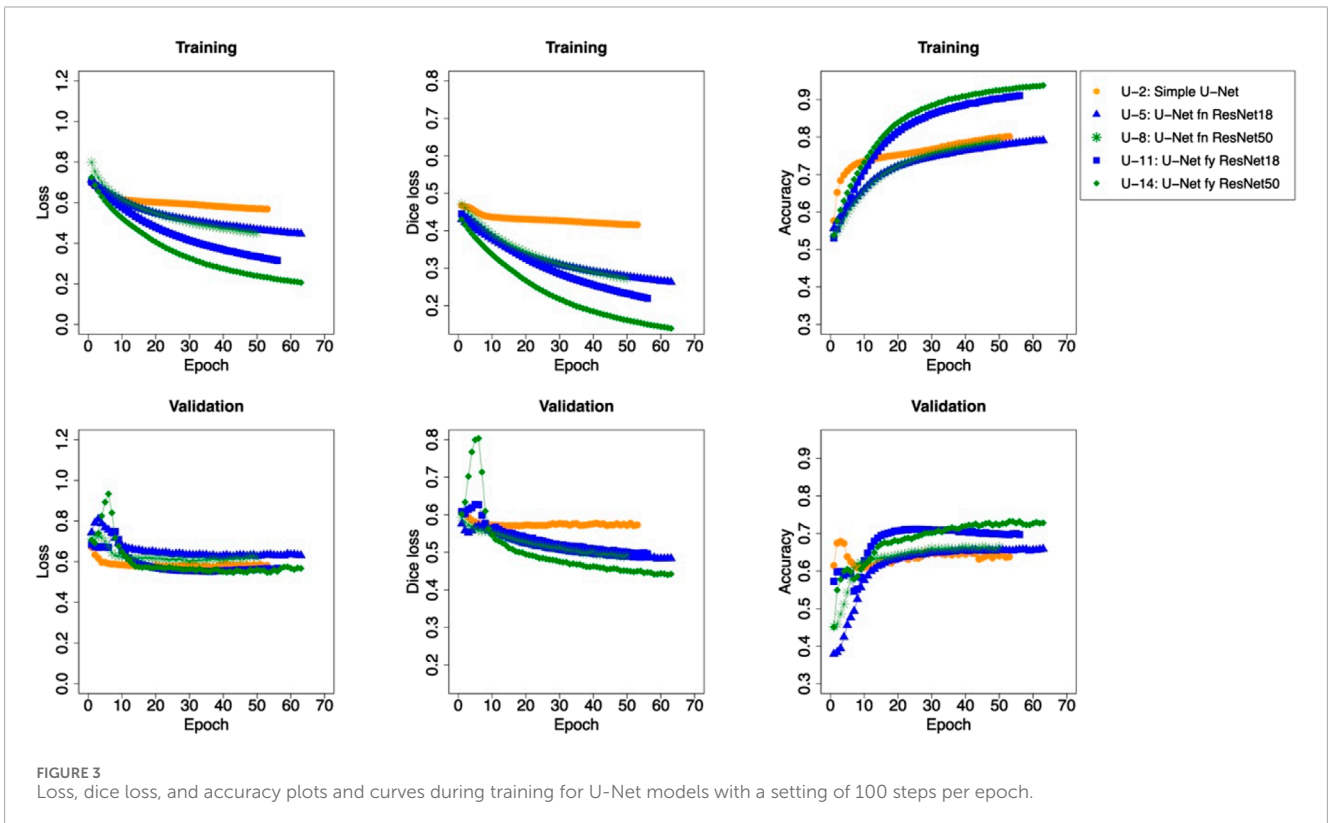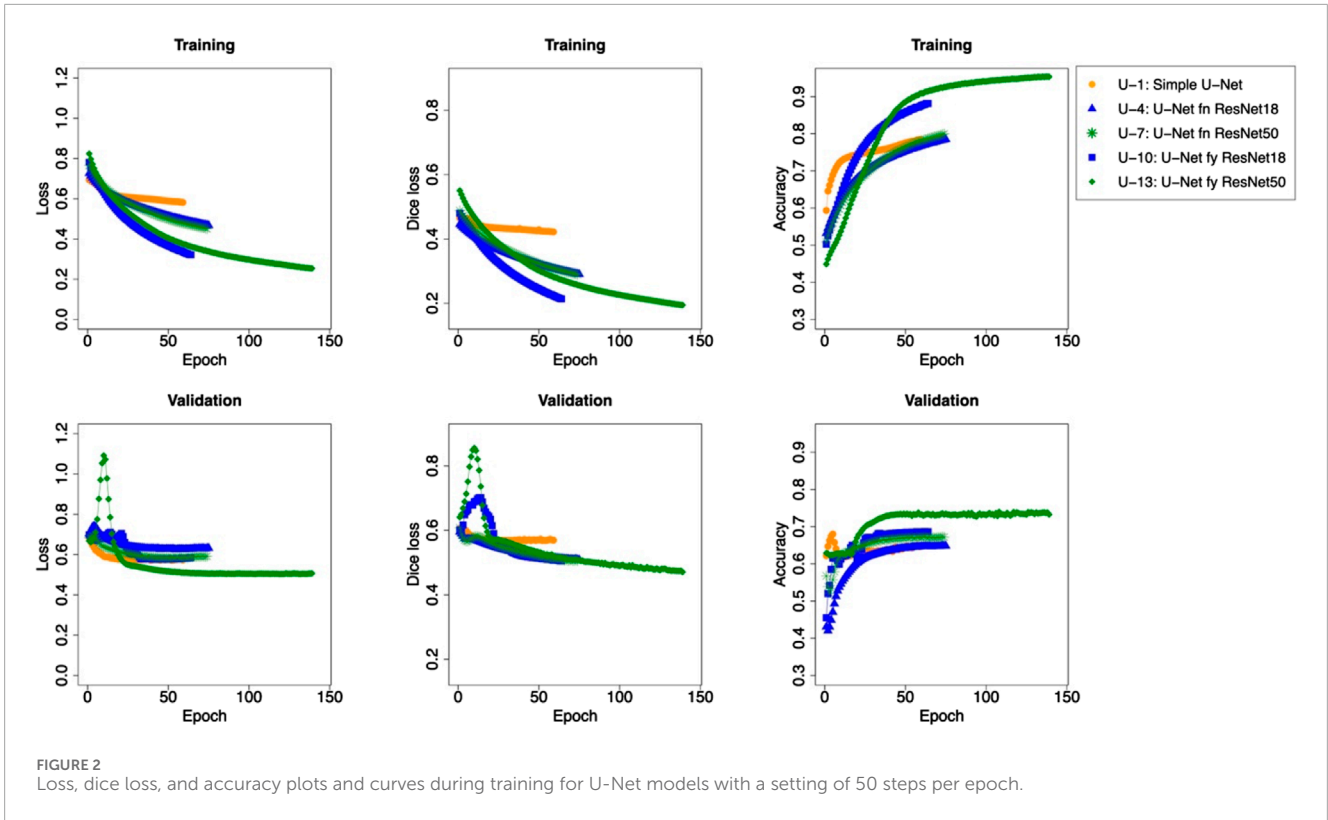
A Corrigendum on

Extraction of stratigraphic exposures on visible images using a supervised machine learning technique

by Noguchi R and Shoji D (2023). Front. Earth Sci. 11:1264701. doi: 10.3389/feart.2023.1264701

In the published article, there was an error in the legend for Figure 2 as published. The symbols were attributed to the incorrect IDs. The blue triangle—U-Net fn ResNet18—was described as U-7 but should have been U-4. The green star—U-Net fn ResNet50 - was described as U-13 but should have been U-7. The blue square—U-Net fy ResNet18 was described as U-4 but should have been U-10. The green diamond—U-Net fy ResNet50—was described as U-10 but should have been U-13. The order has been rearranged into the numerical order of the IDs. The correct figure and legend appears below.

In the published article, there was an error in the legend for Figure 3 as published. The symbols were attributed to the incorrect IDs. The blue triangle—U-Net fn ResNet18—was described as U-8 but should have been U-5. The green star—U-Net fn ResNet50 - was described as U-14 but should have been U-8. The blue square—U-Net fy ResNet18 was described as U-5 but should have been U-11. The green diamond—U-Net fy ResNet50—was described as U-11 but should have been U-14. The order has been rearranged into the numerical order of the IDs. The correct figure and legend appears below.

In the published article, there was an error in the legend for Figure 4 as published. The symbols were attributed to the incorrect IDs. The blue triangle—U-Net fn ResNet18—was described as U-9 but should have been U-6. The green star—U-Net fn ResNet50—was described as U-15 but should have been U-9. The blue square—U-Net fy ResNet18 was described as U-6 but should have been U-12. The green diamond—U-Net fy ResNet50—was described as U-12 but should have been U-15. The order has been rearranged into the numerical order of the IDs. The correct figure and legend appears below.
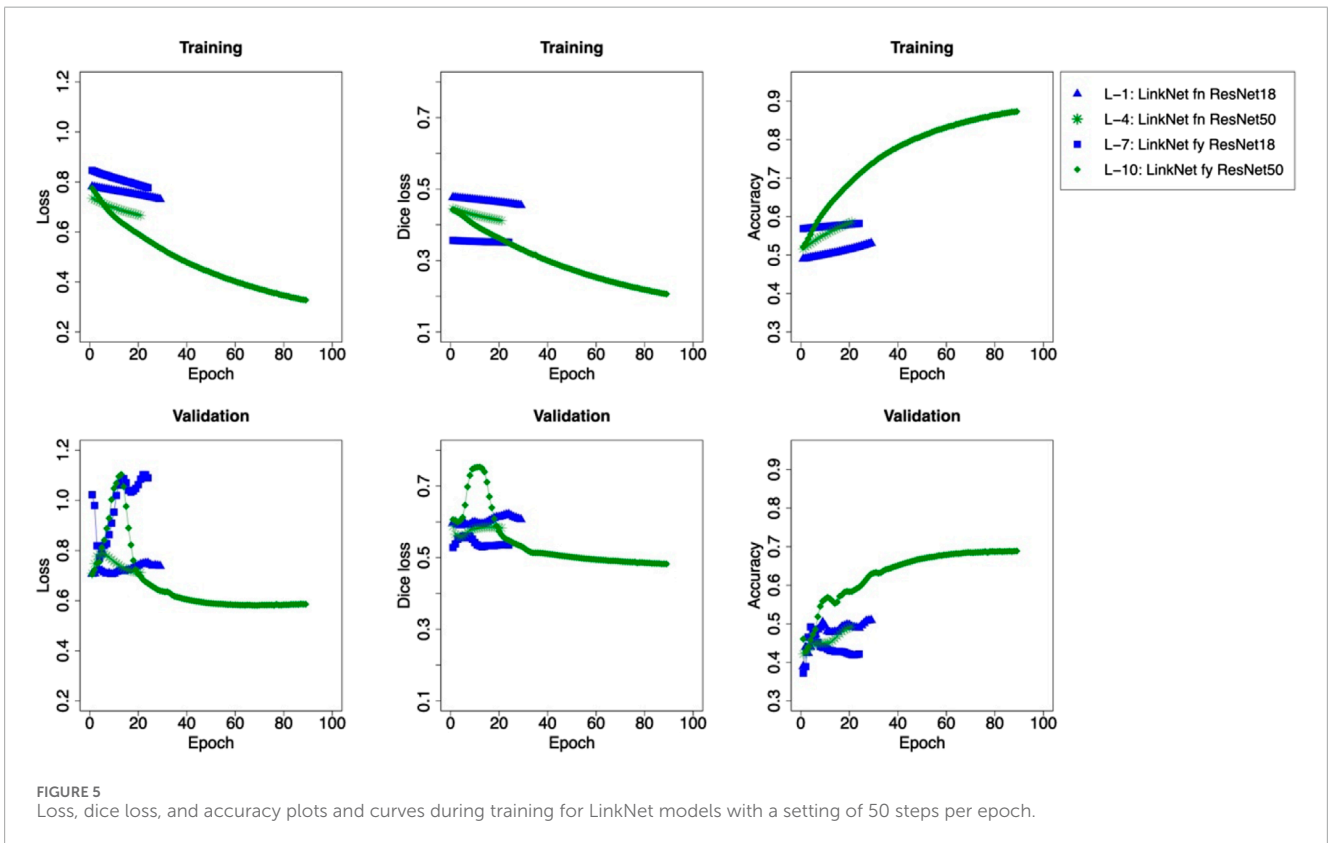
FIGURE 2
Loss, dice loss, and accuracy plots and curves during training for U-Net models with a setting of 50 steps per epoch.

FIGURE 3
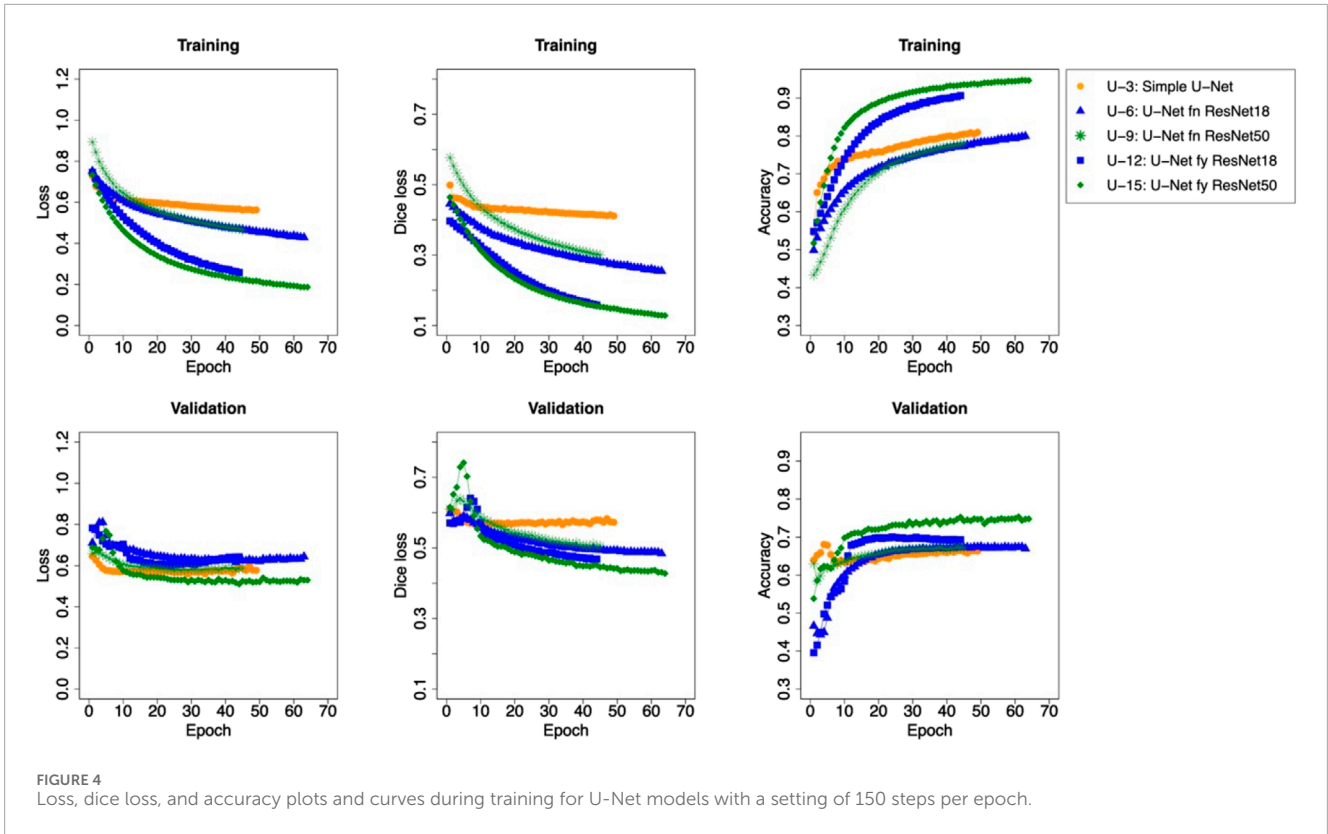Loss, dice loss, and accuracy plots and curves during training for U-Net models with a setting of 100 steps per epoch.

In the published article, there was an error in the legend for Figure 5 as published. The symbols were attributed to the incorrect IDs. The blue triangle–LinkNet fn ResNet18 - was described as L-4 but should have been L-1. The green star—LinkNet fn ResNet50—was described as L-10 but should have been L-4. The blue square—LinkNet fy ResNet18 was described as L-1 but should have been L-7. The green diamond—LinkNet fy ResNet50—was described as L-7 but should have been L-10. The order has been rearranged into the numerical order of the IDs. The correct figure and legend appears below.

FIGURE 4
Loss, dice loss, and accuracy plots and curves during training for U-Net models with a setting of 150 steps per epoch.

FIGURE 5
Loss, dice loss, and accuracy plots and curves during training for LinkNet models with a setting of 50 steps per epoch.

FIGURE 6
Loss, dice loss, and accuracy plots and curves during training for LinkNet models with a setting of 100 steps per epoch.

FIGURE 7
Loss, dice loss, and accuracy plots and curves during training for LinkNet models with a setting of 150 steps per epoch.

TABLE 1 The loss, dice, and binary accuracy at the end of training in each model.

ID	Model	Fine-tuning	Backbone	Step	Training stopped epoch	Training			Validation			Duration (min)	
						Loss	Dice loss	Accuracy	Loss	Dice loss	Accuracy	Total	Per epoch
U-1	U-Net	No	No	50	58	0.582	0.422	0.785	0.573	0.569	0.646	512	8.83
U-2				100	52	0.568	0.416	0.802	0.582	0.573	0.638	298	5.73
U-3				150	48	0.563	0.411	0.810	0.577	0.573	0.663	282	5.88
U-4		No	Yes (ResNet18)	50	74	0.468	0.290	0.785	0.632	0.509	0.648	90	1.22
U-5				100	62	0.446	0.263	0.791	0.631	0.484	0.659	70	1.13
U-6				150	62	0.428	0.255	0.799	0.644	0.485	0.670	76	1.23
U-7		No	Yes (ResNet50)	50	73	0.450	0.289	0.800	0.591	0.506	0.672	121	1.66
U-8				100	49	0.451	0.273	0.790	0.616	0.493	0.665	78	1.59
U-9				150	44	0.465	0.300	0.781	0.587	0.506	0.671	76	1.73
U-10		Yes	Yes (ResNet18)	50	63	0.322	0.214	0.882	0.584	0.505	0.686	76	1.21
U-11				100	55	0.315	0.220	0.911	0.567	0.496	0.697	61	1.11
U-12				150	43	0.258	0.158	0.906	0.643	0.469	0.693	53	1.23
U-13		Yes	Yes (ResNet50)	50	138	0.254	0.195	0.954	0.507	0.471	0.733	229	1.66
U-14				100	62	0.206	0.139	0.938	0.567	0.442	0.728	99	1.60
U-15				150	63	0.187	0.128	0.947	0.529	0.428	0.748	108	1.71
L-1	LinkNet	No	Yes (ResNet18)	50	28	0.731	0.455	0.531	0.738	0.607	0.509	17	0.61
L-2				100	21	0.772	0.510	0.467	0.680	0.629	0.599	14	0.67
L-3				150	20	0.852	0.567	0.443	0.692	0.667	0.620	15	0.75
L-4		No	Yes (ResNet50)	50	20	0.666	0.412	0.586	0.712	0.583	0.493	30	1.50
L-5				100	108	0.519	0.321	0.742	0.615	0.506	0.646	146	1.35
L-6				150	134	0.508	0.293	0.751	0.645	0.486	0.647	190	1.42
L-7		Yes	Yes (ResNet18)	50	23	0.777	0.351	0.582	1.090	0.535	0.421	14	0.61
L-8				100	20	0.677	0.417	0.593	0.723	0.572	0.514	13	0.65
L-9				150	138	0.393	0.230	0.824	0.587	0.478	0.705	99	0.72
L-10		Yes	Yes (ResNet50)	50	88	0.328	0.206	0.873	0.586	0.483	0.689	126	1.43
L-11				100	104	0.314	0.219	0.898	0.562	0.494	0.697	141	1.36
L-12				150	88	0.303	0.183	0.896	0.678	0.465	0.706	128	1.45

In the published article, there was an error in the legend for Figure 6 as published. The symbols were attributed to the incorrect IDs. The blue triangle–LinkNet fn ResNet18—was described as L-5 but should have been L-2. The green star—LinkNet fn ResNet50 - was described as L-11 but should have been L-5. The blue square—LinkNet fy ResNet18 was described as L-2 but should have been L-8. The green diamond—LinkNet fy ResNet50—was described as L-8 but should have been L-11. The order has been rearranged into the numerical order of the IDs. The correct figure and legend appears below.
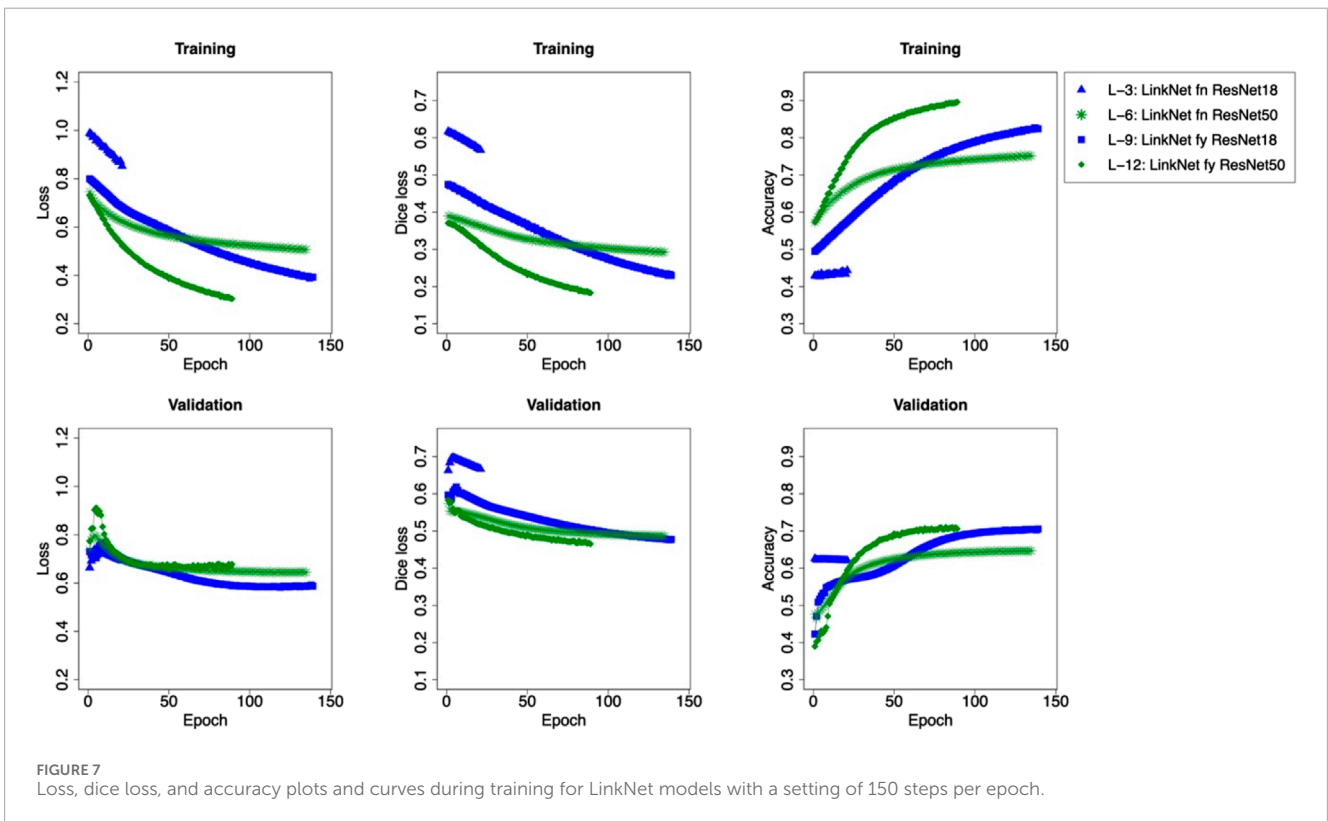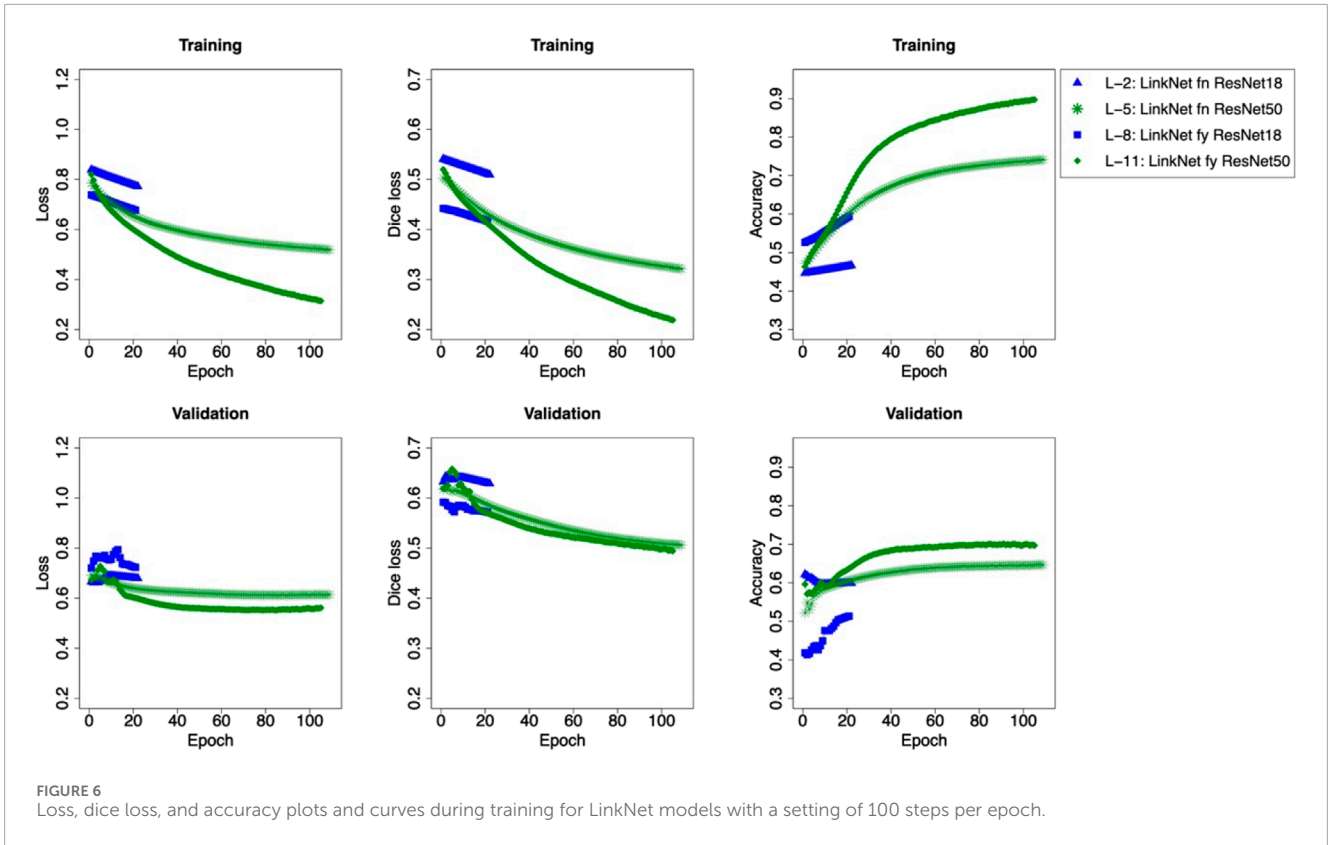
In the published article, there was an error in the legend for Figure 7 as published. The symbols were attributed to the incorrect IDs. The blue triangle—LinkNet fn ResNet18—was described as L-6 but should have been L-3. The blue square—LinkNet fy ResNet18 was described as L-3 but should have been L-9. The green star—LinkNet fn ResNet50—was described as L-12 but should have been L-6. The green diamond—LinkNet fy ResNet50—was described as L-9 but should have been L-12. The order has been rearranged into the numerical order of the IDs. The correct figure and legend appears below.

In the published article, there was an error in Table 1 as published.

Values for the model ID L-1 and L-7 were incorrect. The corrected Table 1 and its caption appear below.

The authors apologize for these errors and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.