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Retraction Note: A hybrid YOLO-UNet3D framework for automated protein particle annotation in Cryo-ET images

Published online: 08 December 2025

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Retraction of: *Scientific Reports* <https://doi.org/10.1038/s41598-025-09522-w>, published online 11 July 2025

The Editors have retracted this Article because content from the Article was copied from publicly available online repositories that were used for a data science competition. Figure 3, which is misrepresented in this article, was duplicated from the CryoET Data Portal [1]. The open-source code used, the approach implemented and Figure 4 were all gathered from the competition's main repository [2].

Zixin Zhang and Xiangyu Li agree with the retraction and its wording. Zhikui Tian disagrees with the retraction. Ziyang Liu, Chunhong Yuan, Xiang Zhou, Zhen Tian, Yuting Pei, and Zuowen Jiang did not respond to the Editors' correspondence about this retraction.

References

1. Ermel, U. et al. A data portal for providing standardized annotations for cryo-electron tomography. *Nat. Methods* **21**, 2200–2202. <https://doi.org/10.1038/s41592-024-02477-2> (2024).
2. Harrington, K., Paraan, M., Cheng, A., Ermel, U. H., Kandel, S., Kimanis, D., Montabana, E., Peck, A., Schwartz, J., Serwas, D., Siems, H., Wang, F., Yu, Y., Zhao, Z., Zheng, S., Reade, W., Demkin, M., Maitland, K., McCarthy, D., Haury, M., Agard, D., Potter, C. & Carragher, B. CZII—CryoET Object Identification (Kaggle, 2024).

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