

DL4MicEverywhere: deep learning for microscopy

Made flexible, shareable and reproducible

Iván Hidalgo-Cenalmor¹, Joanna W Pylvänäinen², Mariana G Ferreira¹, Craig T Russell³,

Alon Saguy⁴, Ignacio Arganda-Carreras^{5,6,7,8}, Yoav Shechtman⁴, AI4Life Consortium,

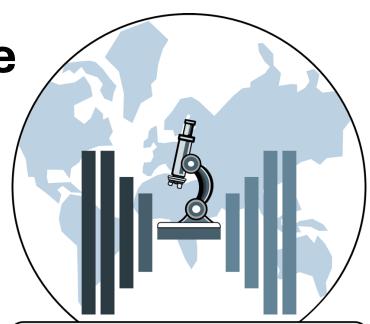
Guillaume Jacquemet^{2,9,10,11}, Ricardo Henriques^{1,12}, Estibaliz Gómez-de-Mariscal¹

1. Optical cell biology group, Instituto Gulbenkian de Ciéncia, Oeiras, Portugal
2. Faculty of Science and Engineering, Cell Biology, Åbo Akademi University, Turku, Finland
3. European Molecular Biology Laboratory, European Bioinformatics Institute, Wellcome Genome Campus, United Kingdom
4. Department of Biomedical Engineering, Technion – Israel Institute of Technology, Haifa, 3200003, Israel
5. Dept. Computer Science and Artificial Intelligence, University of the Basque Country (UPV/EHU), Spain
6. IKERBASQUE, Basque Foundation for Science, Spain
7. Donostia International Physics Center (DIPC), Spain
8. Biofísika Institute, Spain
9. Turku Bioscience Centre, University of Turku and Åbo Akademi University, Turku, Finland
10. Turku Bioimaging, University of Turku and Åbo Akademi University, Turku, Finland
11. InFLAMES Research Flagship Center, Åbo Akademi University
12. UCL Laboratory for Molecular Cell Biology, University College London, London, United Kingdom

Email: ihidalgo@igc.gulbenkian.pt

Paper: Hidalgo-Cenalmor, Iván, et al. "DL4MicEverywhere: deep learning for microscopy made flexible, shareable, and reproducible." *Nat Methods* (2024).

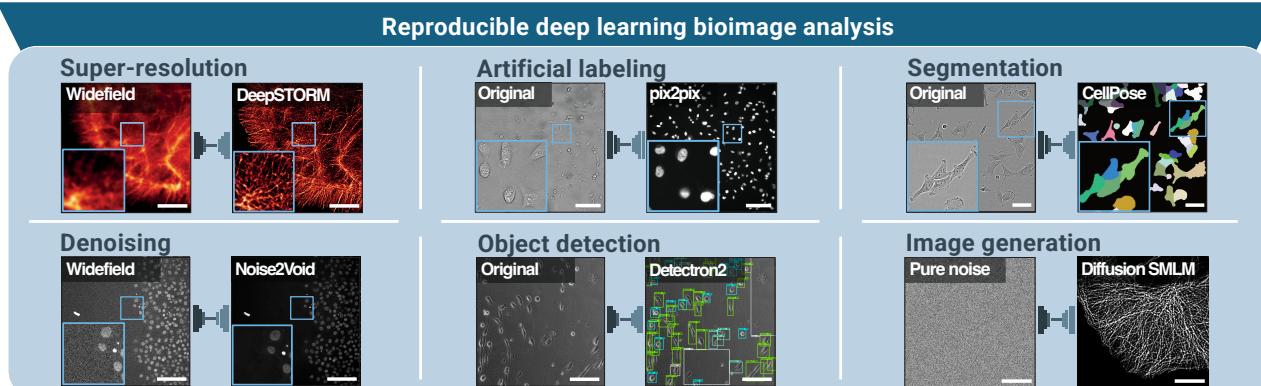
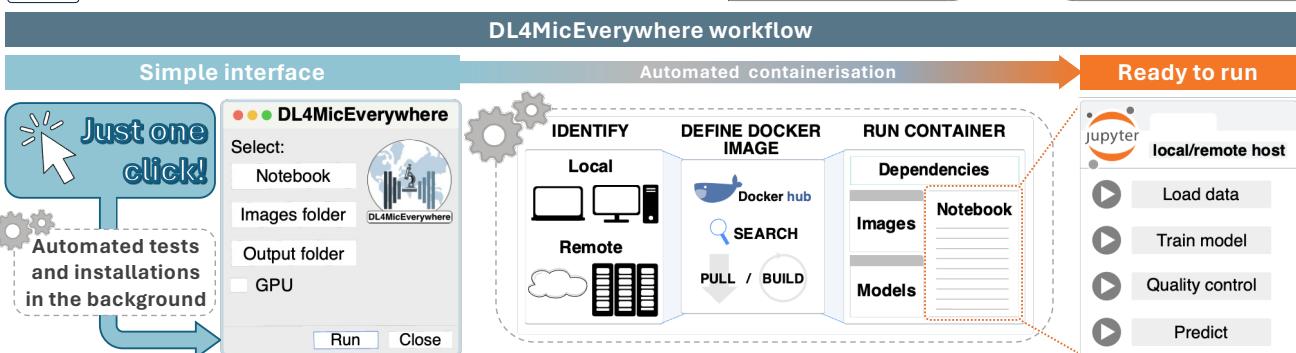
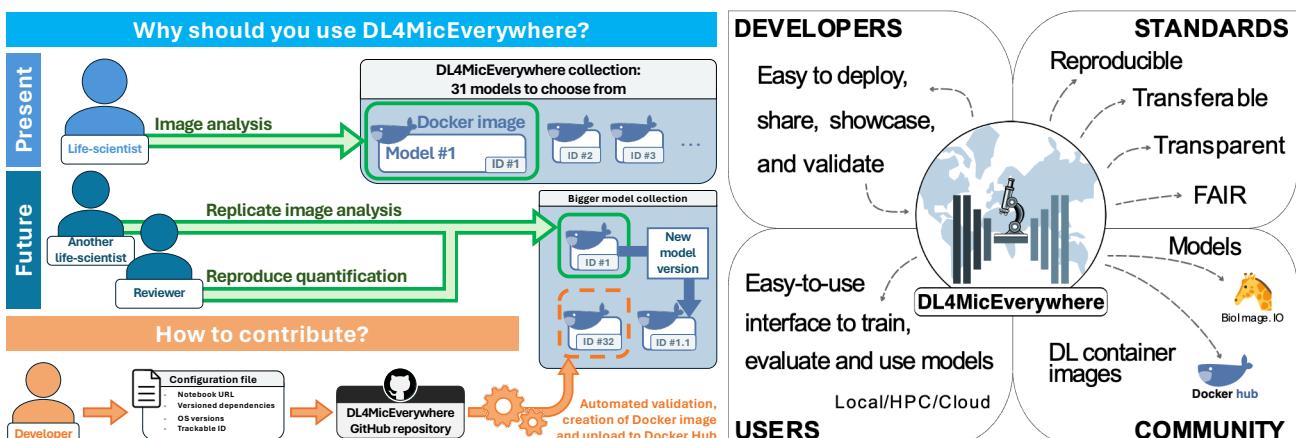
<https://doi.org/10.1038/s41592-024-02295-6>



DL4MicEverywhere



DL4MicEverywhere is a platform that allows users to train and implement their deep learning models in different computational environments. DL4MicEverywhere offers a collection of user-friendly notebooks for segmentation, super-resolution or artificial staining, encapsulated in Docker containers compatible across platforms, ensuring the long-term functionality and reusability of the methods.



Acknowledgements:
AI4Life has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement number 101057970. Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.