Paper Validation Report
for cellpose_plus

Correspondence: Yes
Percentages: 92.0%

Conclusion:

The repository implements the main methods discussed in the paper: it includes code for running and training multiple machine learning models (including LGBM, EN, SVR) with support for hyperparameter optimization (Genetic Algorithm cross-validation) and cross-validation techniques, as described in the experiments. Dataset handling, cleaning, and preprocessing logic (e.g., segmentation, outlier removal), as well as use of specific input variables (DO, temperature, pH, EC), are represented and configurable. The code supports the computation of all major evaluation metrics reported in the results (R2, RMSE, MAE, MARE) and provides infrastructure for plotting and statistical analysis in line with the figures and tables referenced. However, minor details—such as full reproducibility of every figure or parameter choice—may require further effort, as some script entry points and raw dataset linkage are not explicitly detailed in the repository snapshot. Thus, overall compliance is very high but not perfect.