Paper Validation Report
for paper_dissolved_oxyg...

Correspondence: Yes
Percentages: 93.0%

Conclusion:

The repository code shows strong compliance with the scientific paper's experiments. The code implements the three main regression models (ElasticNet, SVR, LGBMRegressor) with genetic algorithm-based hyperparameter optimization as described in the paper. The dataset used (Kosovo water quality), the train/test split, and the main evaluation metrics (R2, MSE, and others) all correspond to the methods section. Visualizations and Monte Carlo-style multiple runs with random seeds reflect the paper's reporting. However, supporting details such as explicit feature importance with SHAP, full uncertainty analysis (e.g., Monte Carlo simulations for uncertainty with 25,000 runs), and some figure/table exact replication are not detailed in the code structure summary. Thus, minor elements for total reproducibility might be missing, but overall compliance is high.