Paper Validation Report

for GEFEST-paper-experim...

Correspondence: Yes
Percentages: 88.0%

Conclusion:

The codebase substantially implements the methods, models, and optimization algorithms described in the experimental section of the paper. Core experiments (generative design with GEFEST across synthetic and real-world cases—breakwaters, microfluidics, heat source configuration, and oil field planning) are present, with scripts reflecting the reported domain setups, estimators (physics-based, deep learning surrogates), and optimizers (GA, DE, SPEA2, PSO). There is strong alignment in terms of datasets, parameterization, and evaluation design. However, while the code provides configurable pipelines and functions for all main experiments, there is insufficient direct evidence (from the given descriptions) that all figures/tables/results (such as final plots or numerical results) are fully reproducible without additional analysis scripts or pretrained model weights, which may not be included. Overall, code and paper are closely aligned on approaches and procedures, but minor gaps (such as auxiliary plotting or missing pretrained artifacts) prevent a perfect score.