

**General comments:**

The manuscript “Spatialize v1.0: A Python/C++ Library for Ensemble Spatial Interpolation” introduces a python package “spatialize”. The methodology is based on a previous publication (Egaña et al., 2021). The motivation of “spatialize” is to provide geostatistical tools to non-experts that lack the experience of spatial analysis, i.e., regarding spatial interpolation. The implemented ESI approach replaces the expert knowledge of a modeler with an ensemble based estimation and grid search for hyperparameters.

In my view, the manuscript lacks the necessary clarity in its comparison analysis. Comparisons are only carried out through a visual assessment of results and precision maps. Typical statistics like RMSE, MAE and alike are missing. Furthermore, to underline the added value of simplifying the application for non-experts lacks a code based comparison with existing python implementations for spatial interpolation. It would also be interesting to see in this manuscript how robust the approach is, i.e. how well miss-specifications can be compensated. Targeting at non-experts, a clear road map with guidance and caveats would also be beneficial.

**Specific comments:**

- classical approaches are not limited to gridded data, neither kriging nor IDW (lines 328/329)
- Figures with grid search results could benefit from indication which parameters are currently investigated; the jig-saw pattern might e.g., be due to different variogram types
- how is the sill obtained? The code snippets only list range and nugget as parameters
- does/can the grid search also optimize the data splits, i.e tree configurations?
- The 3D case only shows possibilities, but lacks any explanation or discussion appropriate for a manuscript (in contrast to, e.g., a manual)
- comparisions lacks a number based comparisions MSE/RMSE/MAE and a like
- In case of the simple mean aggregation and IDW with  $p=1$ , is there an actual benefit of ESI? To my understanding, and under the assumption than on average all tree induced partitions would have the same sum of distances of its members to  $x^*$ , The ESI approach would just be IDW with more points.

**Technical corrections:**

- Package name is typeset in different format, recommendation to set it always as fixed width font.
- Typo: line 179 “...ion 9rep...”