

# Review of: "A Novel Variable Neighborhood Search Approach for Cell Clustering for Spatial Transcriptomics"

Shiwu Xu<sup>1</sup>

<sup>1</sup> Fujian Normal University

**Potential competing interests:** No potential competing interests to declare.

This article introduces a new approach to cell clustering using the Variable Neighborhood Search (VNS) metaheuristic. The authors simultaneously investigated several different clustering methods and analyzed five different embedding methods for dimensionality reduction. The experimental results showed that, compared with these baseline comparison methods, the method proposed by the authors of this article performed better.

The overall paper is well-written, and the topic is very interesting, but some minor modifications are needed, such as, Metaheuristic optimization is a good method for solving non-convex optimization problems, and a large number of classic metaheuristics have been proposed. It is suggested that the authors explain why VNS is chosen instead of other metaheuristics for the objective function to be solved in this article.

It is recommended that all equations be numbered.

More detailed experimental parameters need to be provided, as well as whether the performance of all baseline comparisons is optimal under the given parameters.