

## ***Interactive comment on “Application of the LM-BP neural network approach for landslide risk assessments” by Junnan Xiong et al.***

**Anonymous Referee #1**

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The overall logic of this manuscript is clear. However, I don't think this manuscript conveys a lot of valuable information currently. Besides, the description of some research processes is somewhat ambiguous. 1. First of all, it should be pointed out that the neural network method (machine learning) is a hot topic of current research, and it is even expected to become an important force to promote social development and change. Therefore, I am very willing to affirm the author's far-sighted efforts in the field of machine learning. 2. Considering the wide application of neural network methods so far, the novelty and significance of this research need to be articulated. 3. The reason for choosing BP neural network among so many machine learning methods should be articulated. It is suggested making a detailed comparison of different methods. 4. In order to avoid misunderstanding, it should be more appropriate to replace

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“hazard assessment” mentioned in the manuscript by “susceptibility assessment”, for the meaning of these two expressions is not exactly the same. 5. The expressions like “assessment factor”, “evaluation index” and “evaluation indicator” should be consistent. 6. In the “Methods” section, the basic theoretical introduction of BP neural network or entropy weight is not found, which may bring difficulties for readers without relevant foundations to accurately understand the following research. 7. Line 58 The description that “most of these methods” should be specific. 8. Lines 146~147 Considering that there are many optimization methods for BP neural network, the reason for choosing LM algorithm for optimization should be briefly described. 9. Lines 157~159 “The classification criteria of the evaluation indicators” in this research need to be articulated, for the solution to this problem is currently inconclusive. 10. Line 181 Correct the “comparison” to “Comparison”. 11. Line 187, Line 204 and Line 213 The reason for grading using “the equal interval method” needs to be explained. In fact, the equal interval method may not be the most appropriate choice. 12. Line 284 Correct the “Results and comparison” to “Conclusion”. 13. Table 3~5 The format of the units in the same table should be consistent.

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