Interactive comment on "Backpropagation Neural Network as Earthquake Early Warning Tool using a new Elementary Modified Levenberg–Marquardt Algorithm to minimise Backpropagation Errors" *by* Jyh-Woei Lin et al.

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Dear Reviewer#1 Thank you for your comments. Now I address your comments point-by-point and marked the changes with red words. (1) I wrote more clear as follows; The aim of this paper is to determine whether the EEW can be on the stage by a better real-time and on-line performable training method in BPNN than the past works as stated previously. The microseismic data in the records are firstly used as training data for the BPNN model; in each station shown, the behaviour of microseismic data at each station records the ray tracing path, allowing for the prediction of upcoming

signal. When the large predicted errors are presented, then it is expected that the behaviour of the microseismic data has changed because of this model reflecting the pattern of microseismic data. (2) Because the earthquake forces mostly acted on the center of gravity of the sliding soil mass, and the influences of vertical ground motions were on the seismic-induced displacements of the structures. Therefore I wrote the reasons more clear as follows; The vertical component of an earthquake was the most dangerous because the earthquake forces mostly acted on the centre of gravity of the sliding soil mass, and the influences of vertical ground motions were on the seismic-induced displacements of the structures (Sawicki, et al. 2007; Zhao, et al. 2017). (3) I re-wrote in the text as follows; surveying of the consideration of local building damages from past events under different local geological conditions. By the way in section 2, for reader to understand clearly, I add some statements with red words. I also upload the revise paper.

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Please also note the supplement to this comment:
https://www.geosci-instrum-method-data-syst-discuss.net/gi-2018-13/gi-2018-13-AC1-supplement.pdf

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