According to the advices of the referees, our manuscript need be corrected as follows:

Title: Application of GA-SVM method with parameter optimization for landslide development prediction

Author(s): X. Z. Li and J. M. Kong

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No	Page number	Line number	Incorrect	Correct
1	5299	6	Minimize $\frac{1}{2}\lVert\boldsymbol{\omega}\rVert,(i=1,2,\cdots,n)$	Minimize $\frac{1}{2}\lVert\boldsymbol{\omega}\rVert,$
2	5299	7-8	Subject to $\begin{cases} y_i-\langle\boldsymbol{\omega}\times\boldsymbol{x}_i\rangle-b\le\varepsilon \\ \langle\boldsymbol{\omega}\times\boldsymbol{x}_i\rangle+b-y_i\le\varepsilon \end{cases}$	Subject to $\begin{cases} y_i-\langle\boldsymbol{\omega}\times\boldsymbol{x}_i\rangle-b\le\varepsilon \\ \langle\boldsymbol{\omega}\times\boldsymbol{x}_i\rangle+b-y_i\le\varepsilon \end{cases}$ $(i=1,2,\cdots,n)$.
3	5299	12-13	Subject to $\begin{cases} y_i-\langle\boldsymbol{\omega}\times\boldsymbol{x}_i\rangle-b\le\varepsilon+x_i \\ \langle\boldsymbol{\omega}\times\boldsymbol{x}_i\rangle+b-y_i\le\varepsilon+\xi_i^* \\ \xi_i,\xi_i^*\ge 0 \end{cases}$ $(i=1,2,\cdots,n)$,	Subject to $\begin{cases} y_i-\langle\boldsymbol{\omega}\times\boldsymbol{x}_i\rangle-b\le\varepsilon+\xi_i \\ \langle\boldsymbol{\omega}\times\boldsymbol{x}_i\rangle+b-y_i\le\varepsilon+\xi_i^* \\ \xi_i,\xi_i^*\ge 0 \end{cases}$ $(i=1,2,\cdots,n)$,
4	5300	12	$Max:W(\boldsymbol{a},\boldsymbol{a}*)=-\frac{1}{2}\sum_{i,j=1}^{n}(a_i-a_i^*)(a_j-a_j^*)$ $K(\boldsymbol{x}_i,\boldsymbol{x}_j)+\sum_{i=1}^{n}y_i(a_i-a_i^*)-\varepsilon\sum_{i=1}^{n}(a_i+a_i^*)$	$Max:W(\boldsymbol{a},\boldsymbol{a}*)=-\frac{1}{2}\sum_{i,j=1}^{n}(a_i-a_i^*)(a_j-a_j^*)$ $K(\boldsymbol{x}_i,\boldsymbol{x}_j)+\sum_{i=1}^{n}y_i(a_i-a_i^*)-\varepsilon\sum_{i=1}^{n}(a_i+a_i^*),$
5	5303	21	focus	focuses
6	5304	13	showed	shows
7	5307	1-20	**5 Discussion and conclusions** SVM is a new machine learning method with good performance. However, the generalization performance of SVM models strongly depends on the right choose of the parameters (C and) (Cherkassky and Ma, 2004; Lessmann et al., 2005). In this study, we took a complicated large-scale landslide in some hydro – electrical engineering area of Southwest China as a case, to present an application of GA-SVM method with parameter optimization in	**5 Discussion and conclusions** Development prediction of a complicated landslide is always a critical task in landslide research because of geometrical complexity, non-linearity of the displacement – time relationships and a large number of interplaying factors, hardly taken into account by prediction models (Crosta and Agliardi, 2002). The large-scale landslide in this study is located in the upstream of a hydropower station. Its development process is affected by many factors, such as rain, reservoir water, groundwater and human activity except for the natural features of the landslide body. Moreover, the factors interrelate and

			landslide displacement rate prediction. GA and SVM are organically combined by using GA to automatically search for the parameters of the single-factor and multi-factor SVM models of the landslide. In addition, we also built the single-factor and multi-factor traditional SVM models of the landslide prediction. By comparing, we find that the accuracies of GA-SVM models are lightly higher than those of SVM models and the accuracies of multi-factor models are slightly higher than those of single-factor models for the landslide prediction. Among the models, the accuracy of the multi-factor GA-SVM models is the highest, with the smallest RSME of 0.0009 and the biggest RI of 0.9992. Therefore, the application results indicate that SVM and GA-SVM models have good prediction performance for landslide development tendency, and GA is an effective way for the parameters selection of SVM models. Because of the complexity of landslides and diversity and randomicity of its influence factors, the application of SVM and GA-SVM methods in the landslide development prediction has significant potential.	interact on each other. In order to ascertain the characteristics and development tendency of the landslide, an overall monitoring system was gradually put in practice in 1992 and started to operate in April 1998. The system, based on the geological and geomorphological features of the landslide, uses a variety of landslide monitoring techniques and instruments with different precision to comprehensively monitor the landslide from the surface to the underground. The monitoring items include precise geodetic survey, drilling monitoring, footrill monitoring, meteorological observations and engineering geological survey and so on. The system with large scale, high accuracy and many items is at the same industry leading level. In order to ensure enough accuracy, monitoring instruments are always regularly serviced and renewed, and the intensive observations were made after the reservoir impounding. Long-term and continuous monitoring data provide a good basis for deeply studying the deformation law and mechanism of the landslide. In this study, we use the footrill monitoring data of the creep body in zone II. SVM is a new machine learning method with good performance in solving small-sample, non-linear and high-dimensional problems. It is different from traditional statistics theory and artificial neural network methods, which are suitable for big sample (the sample size approaches infinity). However, the generalization performance of SVM models strongly depends on the right choose of the parameters (C and) (Cherkassky and Ma, 2004; Lessmann et al., 2005). In this study, we took a complicated large-scale landslide in some hydro – electrical engineering area of Southwest China as a case, to present an application of GA-SVM method with parameter optimization in landslide displacement rate prediction. GA and SVM are organically combined by using GA to automatically search for the parameters of the single-factor and multi-factor SVM models of the landslide. In addition, we also built the single-factor and multi-factor traditional SVM models of the landslide prediction. By comparing, we find that the

				accuracies of GA-SVM models are lightly higher than those of SVM models and the accuracies of multi-factor models are slightly higher than those of single-factor models for the landslide prediction. Among the models, the accuracy of the multi-factor GA-SVM models is the highest, with the smallest RSME of 0.0009 and the biggest RI of 0.9992. Therefore, the application results indicate that SVM and GA-SVM models have good prediction performance for landslide development tendency, and GA is an effective way for the parameters selection of SVM models. Because of the complexity of landslides and diversity and randomicity of its influence factors, the application of SVM and GA-SVM methods in the landslide development prediction has significant potential.