

عنوان مقاله:

Prediction of maximum surface settlement caused by earth pressure balance shield tunneling using random forest

محل انتشار:

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خلاصه مقاله:

Due to urbanization and population increase, need for metro tunnels, has been considerably increased in urban areas. Estimating the surface settlement caused by tunnel excavation is an important task especially where the tunnels are excavated in urban areas or beneath important structures. Many models have been established for this purpose by extracting the relationship between the settlement and the factors that influence it. In this paper, Random Forest (RF) is introduced and investigated for the prediction of maximum surface settlement caused by EPB shield tunneling. Various factors that affect this settlement, including geometrical, geological and shield operational parameters were considered. The results of RF model has been compared with the available artificial neural network (ANN) model. It is shown that the proposed RF model provides more accurate results than the ANN model proposed in the literature.

کلمات کلیدی:

Random Forest (RF), Tunnel, Earth Pressure Balance (EPB), Maximum Surface Settlement

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