Application and Evaluation of Deep learning Phase Pickers for Local Aftershock Monitoring

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- Machine Learning is applied to various seismological tasks, it is most commonly used for seismic signal detection, phase picking, and classification nowadays, there are many deep learning pickers such as EQTransformer, PhaseNet, GPD

- In this study, we applied these pickers to aftershocks of two moderate earthquakes in occurred on Northwestern part of Türkiye (Mw 5.7 Marmara Sea on 26.09.2019 and Mw 6.0 Düzce on 23.11.2022) and pickers were compared with the Kandilli Observatory catalogue.

- We wanted to measure how much the pickers matches the catalogs by calculating the precision, recall and F1 scores as well as pick time differences for both P and S phases.

- The results indicate that machine learning pickers perform somewhat similar in our case. They are not perfect in matching the reviewed catalog but can help the analyst especially in aftershock monitoring.