Supporting Information for

Spatial Prediction of Aftershocks Triggered by a Major Earthquake: a Binary Machine Learning Perspective

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Introduction

In the supplementary file, we provide supplementary information on interferometric synthetic aperture radar data (InSAR) and explanations of the aftershock parameters and machine learning (ML) methods.

aftershocks_predictions_IJGI.xlsx also contains the Coulomb failure pixel values, the slip distribution pixel values, the results of binary ML classifications (0 or 1) for different ML algorithms, and the locations of all the aftershocks used in this study.

Contents of this File

Figures S1 and Table S1.

Supplementary Figure and Table:

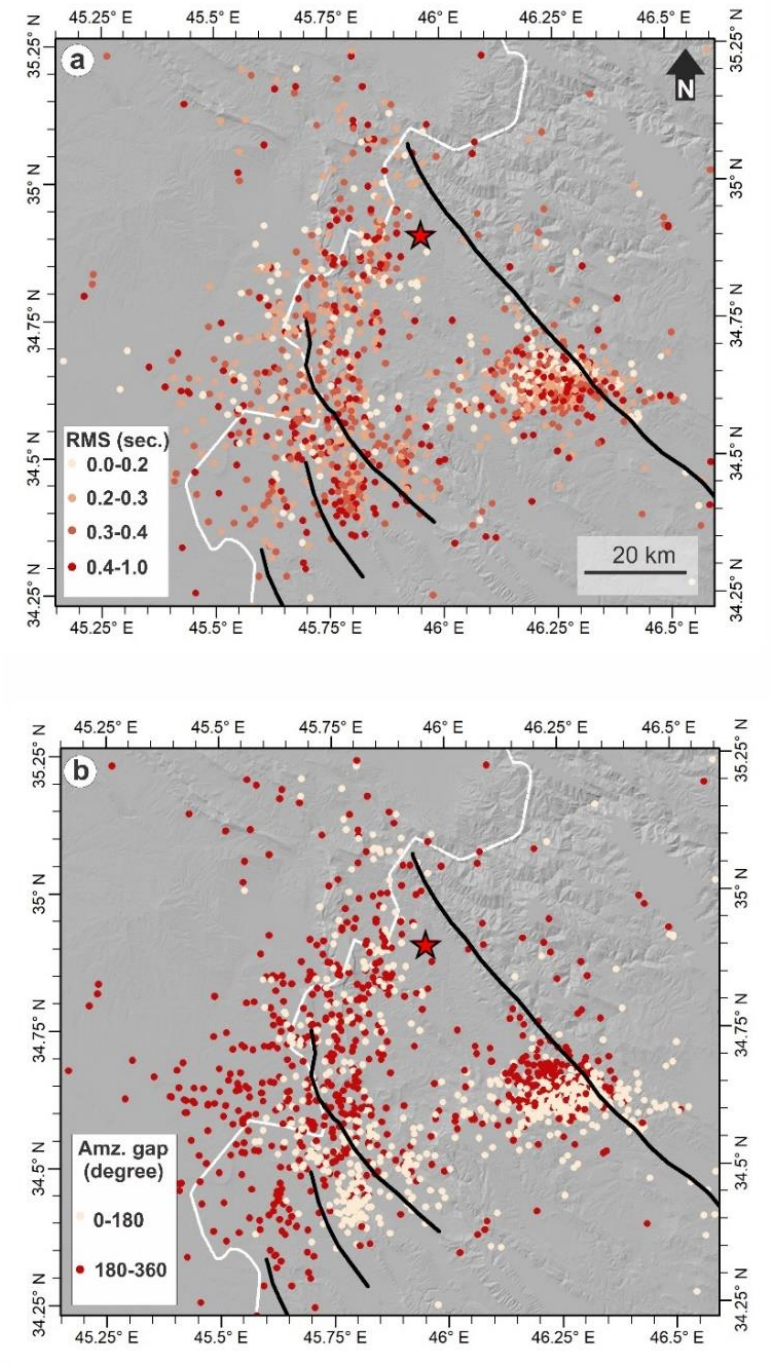

Figure S1. (**a**) The root-mean-square (RMS) of travel time residuals (in seconds) of the observed arrival time relative to the predicted arrival time for each location; (**b**) The azimuthal gap

between the events recorded by the Iranian Seismological Network (ISN). A larger azimuthal gap (red circles) indicates greater uncertainty in the location and depth of the aftershock records.

Table S1. Parameters of the SAR datasets used in this study.

Sensor	Orbit	Track	Mode	Master (yyyy/mm/dd)	Slave (yyyy/mm/dd)	Resolution rg×az (m)	Coverage (km)	Incidence Angle (°)
ALOS-2	ASC	180	WD	2016/08/09	2017/11/14	95×78	350	40
	DES	71	WD	2017/10/04	2017/11/15	95×78	350	40
Sentinel-1	ASC	72	IWS	2017/11/11	2017/11/17	5×20	250	39
	DES	79	IWS	2017/11/12	2017/11/18	5×20	250	39
	DES	6	IWS	2017/11/07	2017/11/19	5×20	250	39