

Input catalog

time	latitude	longitude	depth	magnitude
01-Jan-17 2:50:06	32.9715	-115.55016	4.63	3.13
01-Jan-17 3:02:10	32.9735	-115.54667	5.58	2.5
01-Jan-17 4:08:31	32.97683	-115.54933	6.71	2.77
01-Jan-17 8:09:48	32.97167	-115.54166	7.6	2.44
01-Jan-17 10:28:08	32.97533	-115.5455	5.83	2.41
⋮	⋮	⋮	⋮	⋮

Recent earthquakes
encoder (LSTM)

Seismicity rate
encoder (LSTM)

Fully connected
neural network

Query space-time
coordinates

Distribution
parameters

a_1

b_1

a_2

b_2

A_1