

The Other Aspects of Earthquakes

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Earthquakes

- An earthquake happens when two blocks of the earth suddenly slip past each other.
- The energy comes outward in all directions in the form of seismic waves. Therefore, the waves shake the earth as they come to the surface of the earth.
- They are classified into 3 branches like foreshocks, mainshock and aftershocks. It is uncertain that which will happen at that time. Sometimes the mainshock follows the foreshocks but sometimes the aftershocks follow the mainshocks. Sometimes all of them can happen. Depending on the size of the mainshock, aftershocks may continue for long times.
- It causes disasters and damage the life on Earth. Unfortunately, scientists can never predict earthquakes. They can just know there will be another earthquake in the near future but there is no way of telling when it will happen.

The Most Important Earthquakes in the 21th Century

Place	Magnitude	Fatalities
Indonesia 2004	9.10	227898.00
Haiti 2010	7.00	160000.00
China 2008	7.90	87587.00
India 2005	7.60	87351.00
Turkey, Syria 2023	7.80	51849.00
Iran 2003	6.60	34000.00

This table shows us that we must take precautions because the number of fatalities is really scary.

How can earthquakes be prevented ?

- We saw on the previous table that the damage of the earthquakes is extremely hurting. Unfortunately, there is no chance of totally preventing the disaster. Eventually, they will happen.
- However, it is possible to decrease its damage.
- With the help of the developing technology and artificial intelligence, we can find different ways to be prepared the earthquake. At the same time, it is possible to figure out various precaution for after the disaster.



An Idea for Before the Earthquake

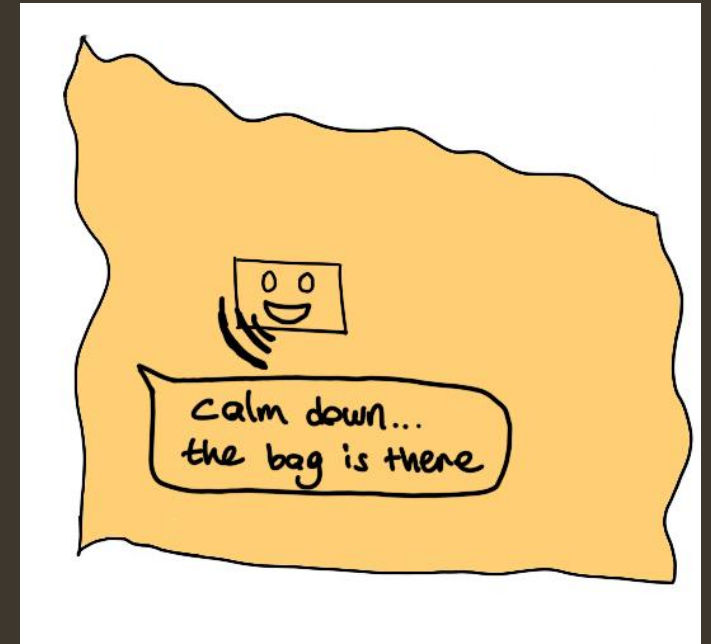
- Everyone knows these three basic ways to save themselves.
- However, if we design an AI Project about preventing it, it won't be a mistake. According to my Project-1, there is a system which is developed with deep learning. This system shows us the characteristics of the house to be built in that region by recognizing the soil structure of the region, the altitude, the fault lines passing there, the recent breaks of these fault lines and other characteristic features, then tells us that these standards should not be exceeded. We can call it as 'The New City Planner'.



At the time of the Earthquake

'Safer' /Project-2

- In the event of an earthquake, most of us panic and do not know what to do. Regardless of how much we had practiced and prepared. In these moments, we need someone who gives us advice and tells us what we can do best. To assist us in these moments, I will introduce you to the deep learning-based 'Safer' that detects vibration and movements using sensors.



At the time of the Earthquake

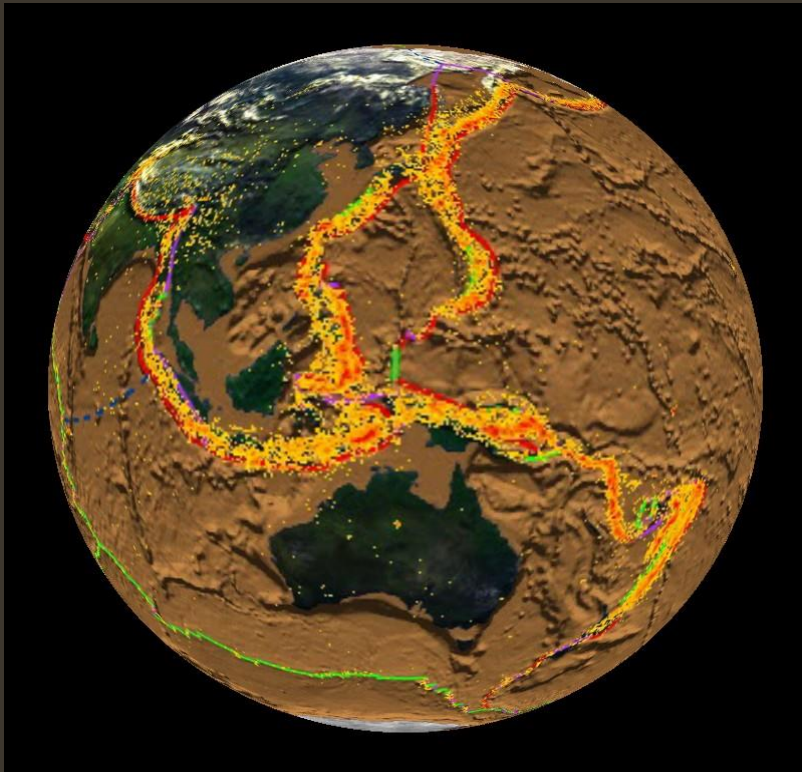
'Safer'

- As soon as Safer detects seismic waves with its sensor underground, if the magnitude of this earthquake is above a certain value, it activates at home and tries to calm down the household. On the other hand, it prevents them from going in the wrong direction and reminds them where they should do the 'çök-kapan' movement and where the earthquake kit is. At the same time, if anyone tries to leave the house during an earthquake, it detects them with the help of the movement sensors and warns them.



At the time of the Earthquake

‘Safer’



- After the earthquake, if you are under the wreckage, if you are close to 'Safer', it will allow you to send a high frequency sound as much as possible and it will point out your location thanks to the wireless connection. If you are not at home, it will be inactive to avoid misleading the search and rescue teams. With its durable structure and long-lasting charging capacity and size, it is not possible for 'Safer' to take damage during the disaster.

Before the Earthquake with 'Safer'

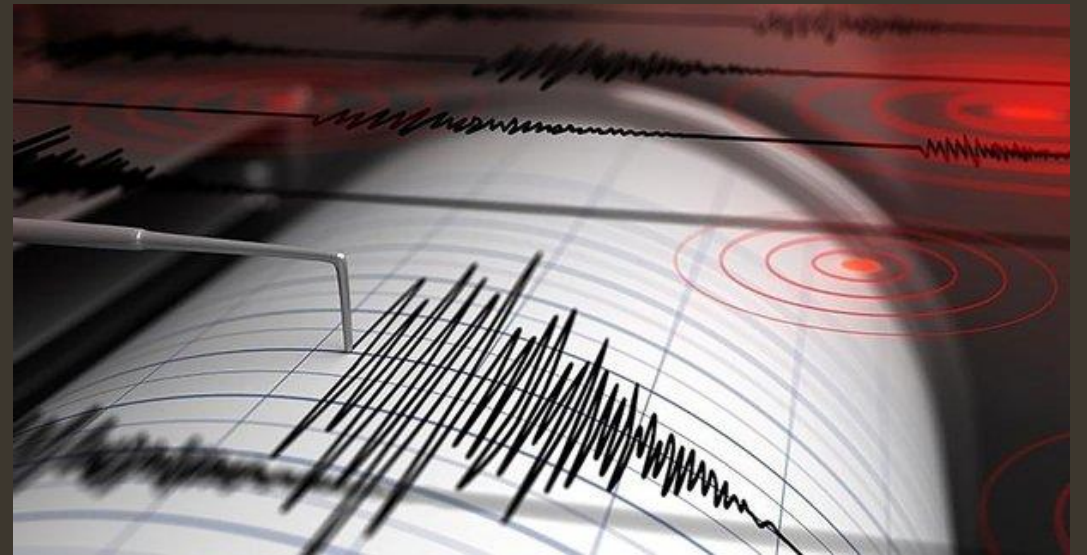
'Safer'

- Before the earthquake, if you enter the expiration date of food in the earthquake bag of 'Safer', if the expiration date of the food is approaching in the earthquake bag, it will send a signal to your phone to change the foods with the new ones.
- In terms of the value it creates, 'Safer', which keeps human life more than anything else, considers human psychology even in the event of disaster. By trying to calm the moment of disaster as possible, it tries to relieve the disaster caused by the earthquake in our memory.

Before the Earthquake with 'Safer'

'Safer'

- 'Safer' s vocabulary is not limited to what we have mentioned. You can ask him questions about the earthquake before a disaster and you can learn the answers by voice thanks to the sound detection feature. At the time of the earthquake, what it says to you will not be only 'you should be calm', 'You should go in this direction'. With a large vocabulary, it tries to stabilize this situation calmly and professionally.



Thanks for your time..