

**Research a real-world example of an overfit or underfit model, and write a few sentences describing what the application is, why the model was considered underfit or overfit, and how it affected its predictions**

The Fukushima disaster was a nuclear power plant disaster that occurred on March 11, 2011 in Ōkuma, Fukushima, Japan. The analysis beforehand may have led to this disaster and this fault analysis is what we call “overfitting.” In particular, there is something called the Gutenberg-Richter relationship which provides a straight line logarithmic fit over a period of time. This relationship is a rough prediction of the frequency in which specific non-frequent earthquakes will occur. When scientists and engineers were analyzing the data, there seemed to have been a small anomaly in the data, however this was either ignored in the “overfit” model. Overall, the overfit model was hugging the data way too tightly so when it followed the data too closely, the data turned out to be wrong! This was an example of overfitting because rather than observing the “trend” and the “pattern”, the overfit model just focused on the data which made it lead to a wrong prediction in Japan’s Earthquake Frequencies.