



Can citizens train Artificial Intelligence algorithms to process volcano-seismic signals?

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The scientific community dedicated to volcanic seismology needs to label large databases to deepen knowledge of volcanoes. However, labelling these dataset is practically unattainable for seismologists. In recent years, there have been great advances in the field of artificial intelligence (AI), especially in the recognition of voice and images. This has led to the approach of using these techniques to recognize seismo-volcanic signals. For an AI to act adequately, different algorithms must be used (Neural Networks, Hidden Markov Models) and trained with a large amount of labelled data. In this sense, we want to highlight the work of experts who are responsible for labelling databases efficiently. However, if the labelled database is larger, we will improve the response of the AI. Currently, every citizen in the world has a mobile phone at their fingertips. Moreover, we can download applications that allow us to do a lot of tasks. In this sense, we would like to create an application (app) with which we intend to involve citizens in the labelling of seismo-volcanic signals (Citizen Seismology). For this purpose, through gamification, citizens would be trained in the recognition of seismo-volcanic signals (they would obtain knowledge about seismic signals and volcanoes in a friendly way). On the other hand, they would label new signals (with their corresponding weights because they are no experts). These new data will be incorporated into the database to continue training the IA.

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