

Abstract:

Title: MyShake - Building a global smartphone seismic network

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In this talk, I will take you on a journey how we build a global smartphone seismic network - MyShake. This is a crowdsourcing project that harnesses the sensors inside the smartphones to detect earthquakes. For the first part of the talk, I will discuss the motivations behind the project and various tests we did to prove the concepts, i.e. whether the phones are capable of recording earthquakes, or whether we can separate earthquake motions from human motions. The second part of the talk will show you the data we collected after a global release of the application on Feb 2016. We got more than 270,000 downloads and built a global network across 6 continents within less than a year. Until Aug 12th 2017, MyShake network has recorded more than 700 earthquakes globally ranging from M2.5 to M7.8. Furthermore, the real-time data and waveform data collected from the network have great potential applications both in Earth science and data science. I will also talk the experiment we did to potentially use smartphones in the structural health monitoring.

For more information about the project:

<http://myshake.berkeley.edu/>

For more information about Qingkai:

<http://seismo.berkeley.edu/qingkaikong/>

BIO:

Qingkai Kong will receive his Ph.D. degree in geophysics in 2018 from University of California at Berkeley. Before that, he studied Civil Engineering back in China and got his master degree in structural engineering in 2010. His research focuses on earthquake detection using machine learning and large-scale sensor network. Currently he is working on MyShake, a crowdsourcing smartphone seismic network and applying data science to various problems in Earth science.