

Machine learning to extract gravitational wave transients.

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The combined detection of a binary neutron star merger and a localised electromagnetic counterpart GW170817 started the multimessenger astronomy era and made clear that faster methods of data analysis would be beneficial. In third LIGO-Virgo Observing Run and future runs we expect the number of detections to increase, but most importantly the frequency of occurrence of detections to increase. If the time of localisation of a signal is not small enough we might miss significant information from electromagnetic counterparts. A promising way of analysis which will possibly exceed the speed of matched filtering is the use of Machine Learning, although these applications must be comparable with already existing methods. In this talk I will present results of application of machine simulated binary merger signals and unmodeled transient signals added to real LIGO data. I will also show how to translate these results to something that is comparable to the existing pipelines. Finally I will briefly talk about the software I am developing to make this automated and available to use by anyone.