

# Using Machine Learning to Denoise Acoustic Pulses

*Monday 23 August 2021 13:30 (15 minutes)*

The project I am working on is in Simulations and Data Analysis. I am working in the GeRMLab to use machine learning to remove electronic noise from pulses collected with a germanium semiconductor detector. Clean pulses were both simulated and approximated by mathematical functions. Flat noise was added to these pulses, and these, along with noisy pulses from the detector, were used to train, validate, and test the denoising model.

I am working this summer on transferring this method to acoustic pulses collected with the PICO dark matter experiment. I received data from PICO to train and test the model, and I used transformations to augment the dataset. I will then use the noisy acoustic pulses to train and optimize a model to denoise them.

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