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## Obstacle location and identification using Time Reversal and Machine Learning

The inverse problem of obstacle location and identification has been studied using many approaches. We have developed an algorithm based on time reversal for the acoustic wave equation to locate the position of an obstacle even in the presence of partial and noisy information. We propose methods for using the latest machine learning algorithms to get improved predictions for hard obstacles in a homogeneous environment. We present promising results and several options for further development.