Capstone Project #2 – Proposal

The Problem

The project will attempt to classify sound files of less than four seconds each into 10 classes of urban sounds, such as a dog barking or a car horn.

The Client

The fictional client is a home security company that wishes to build a more effective system for their clients that helps to anticipate problems in an attempt to prevent problems before they happen. By analyzing the ambient noise surrounding the house, they hope to identify sounds that could cause a potential threat. Their system can then be programmed to take an appropriate action for these threats, such as trigger an alarm or lighting system, notify the homeowner or alert the appropriate authorities.

The Data

The data was taken from the Analytics Vidhya website.

https://datahack.analyticsvidhya.com/contest/practice-problem-urban-sound-classification/

The training data consists of 5435 .wav files of no more than four seconds in length. Each of these sounds is labeled with one of ten possible urban sounds.

A test set is also provided with 3297 unlabeled .wav files.

The Approach

An initial deep learning model will be fit to the data. After that, experimentation with the model parameters will be done to find the model with the highest accuracy.

The Deliverables

A final report will be written to summarize the results including visualizations.