

AUDIO CLASSIFICATION USING DEEPLARNING

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PROJECT TITLE



Audio classification using deeplearning



AGENDA

The agenda of this project is to develop a deep learning model for audio classification using the UrbanSound8K dataset. This involves extracting meaningful features from audio files and training a model to classify them into predefined categories.



PROBLEM STATEMENT

Urban areas are filled with various sounds, including traffic noise, human activities, and industrial sounds. Automatic classification of urban sounds can have several applications such as urban planning, noise pollution monitoring, and public safety. However, manual classification of audio recordings is time-consuming and subjective. Therefore, there is a need for an automated system to classify urban sounds accurately and efficiently.



PROJECT OVERVIEW

The project aims to develop a deep learning model that can classify urban sounds into predefined categories such as "car horn," "dog bark," "siren," etc. This involves preprocessing audio data, extracting relevant features, building and training a neural network model, and evaluating its performance.



WHO ARE THE END USERS?


- The end users of this project include:
 - Urban planners: To understand noise patterns in different areas and plan accordingly.
 - Environmental agencies: To monitor noise pollution levels and take necessary measures.
 - Public safety authorities: To detect emergency situations such as sirens or alarms.

YOUR SOLUTION AND ITS VALUE PROPOSITION



Our solution involves developing a deep learning model that can accurately classify urban sounds based on their audio features. By automating the classification process, our solution saves time and effort compared to manual classification methods. Additionally, it provides real-time analysis of urban soundscapes, enabling timely interventions in case of emergencies or abnormal noise levels.

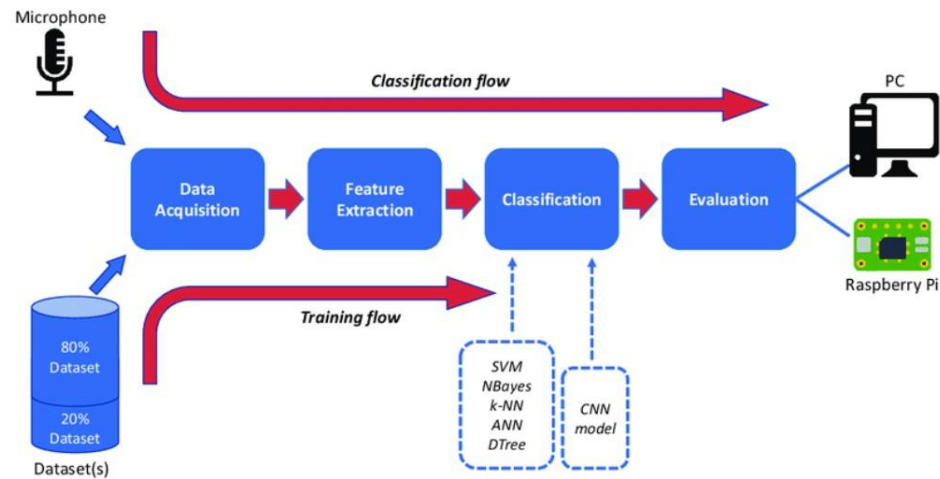
THE WOW IN YOUR SOLUTION



The "wow" factor of our solution lies in its ability to accurately classify a wide range of urban sounds with high precision and recall. The model's ability to generalize well to unseen data and its real-time processing capabilities make it a powerful tool for urban sound analysis.



MODELLING



- Description of the deep learning model architecture.
- Explanation of model training and evaluation processes.

RESULTS

This project proposal outlines the objectives, target users, and key features of our audio classification solution for urban sounds. By addressing the problem of manual classification and providing an automated, efficient solution, our project aims to make a positive impact in urban planning, environmental monitoring, and public safety.



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