

Acoustic Event Detection Using Machine Learning

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Abstract: Nowadays Audio event detection is playing an important vital role in research area it has become the main part of machine learning which plays an important role in everyday life it consists of audio tagging, classified music, emotional speech, audio sounds. Convolutional neural networks are proposed and applied on sound event detection complications. This system detects sound events such as Laughter, crying sounds of humans, Singing of Birds, Firing, speaking sounds, speech, blast and boom sounds even including animals and birds' sounds were also detected it can also include news broadcasting, each and every situation were included. Sometimes sounds might overlap at that time it becomes hard to detect the overlapped sound events so such problems can be solved by using CNN models.

Keywords: Sound Event Recognition, Machine Learning, Convolutional Neural Networks

REFERENCES

- [1]. Zhao, Chendong & Wang, Jianzhong & Li, Leilai & Qu, Xiao yang & Xiao, Jing. (2022). Adaptive Few-Shot Learning Algorithm for Rare SoundEventDetection.10.48550/arXiv.2205.11738.
- [2]. Zhao, Xujiang, Xuchao Zhang, Wei Cheng, Wenchao Yu, Yuncong Chen, Haifeng Chen, and Feng Chen." SEED: Sound Event Early Detection via Evidential Uncertainty." In ICASSP 2022- 2022 IEEE International Conference on Acoustics, Speech and Signal Processing(ICASSP),pp.3618-3622. IEEE,2022.
- [3]. Mnasri, Zied&Rovetta, Stefano & Masulli, Francesco &Cabri, Alberto. (2022). Anomalous sound event detection: A survey of machine learning based methods and applications.
- [4]. Me saros, Annamaria, Heittola, T., Virtanen, T., &Plumbley, M. D. (2021)"Sound event detection: A tutorial." IEEE Signal Processing Magazine 38.5(2021):67-83.
- [5]. Suruthi, V.S, V.S and Smitha V and Gini J,Rolant and Ramachandran Convolutional recurrent neural network(CRNN),gated recurrent unit(GRU),long short-term memory(LSTM),sound event localization and detection(SED).
- [6]. Y. R. Pandeya, B. Bhattarai and J. Lee, "Sound Event Detection in Cowshed using Synthetic Data and Convolutional Neural Network," 2020 International Conference on Information and Communication Technology Convergence(ICTC), 2020,pp.273-276,doi: 10.1109/ICTC49870.2020.9289545.