BRNO UNIVERSITY OF TECHNOLOGY
FACULTY OF INFORMATION TECHNOLOGY

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Deepfake dataset

for evaluation of human capability on deepfake recognition

The dark side of AI

The world of technology made massive progress in the field of AI in recent years. Today, we see machines that can learn, make decisions, and perform tasks that were once only possible for humans.
This field also has its dark side. Synthetic media can provide many creations of fake images, videos, and audio recordings. Thousands of people are being scammed every day. So, are we able to detect these "deepfakes"?

Dataset

Deepfake recordings in the dataset are evaluated with a proposed quality system. Results from each measure were converted to a percentage and averaged. These evaluations were clustered into groups using the k-means algorithm.
The three measures used in objective quality evaluation

- Mel Cepstral Distortion
- PESQ
- Log-likelihood ration

Experiment

The experiment is focused on the human ability to distinguish between synthetic audio recordings and the original ones. The targeted group is students, considering they have more experience with the internet and it is more likely to be familiar with deepfake media for them.

Dataset

The proposed dataset for the experiment contains pair recordings. Each pair has a synthetic audio recording and an original audio recording recorded by humans.

This dataset with pairs of recordings is evaluated using a proposed quality system. This categorization is supposed to help us find the best deepfake - the hardest one to detect.

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