BRNO UNIVERSITY OF TECHNOLOGY
FACULTY OF INFORMATION TECHNOLOGY

AUTOMATIC SPEECH DETECTION FOR VHF CHANNEL

BACHELOR'S THESIS

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GOALS

Propose a NN architecture for automatic voice detection (VAD) and push-to-talk (PTT) events detection on provided data. Augment the training data,train and evaluate the NN. Experiment with various app-roaches and NN architectures.

USED METHODS AND DATASET

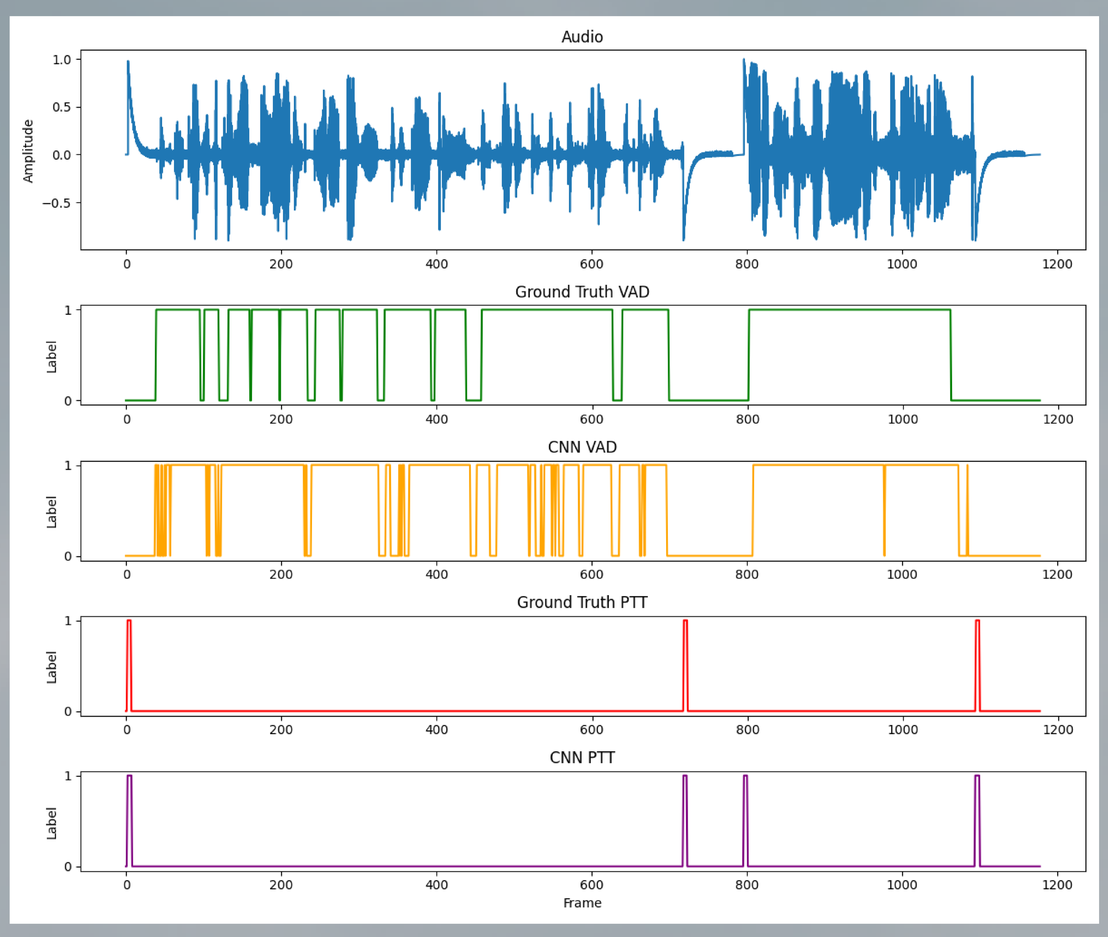
Feed-forward Neural Network
- trained on VAD, PTT and both of the tasks

Convolutional Neural Network
- trained on both tasks

GPVAD
- trained on PTT and fine-tuned to VAD and PTT detection.

ATCO2 DATASET
- four hours of air traffic communication provided by atco2.org

PRODUCT



RESULTS

FNN multitask learning:

65% VAD **94%** PTT

CNN multitask learning:

82% VAD **97%** PTT

GPVAD multitask learning:

66% PTT