Homework 8

Due: 2021-12-22 (Wed.) 8pm

Introduction

In this assignment, you will build a voice dataset and implement an algorithm for Spoken keyword spotting (sometimes called wake-up word or trigger word detection).

- You will implement a model which will beep every time you say "activate". After the model is completed, you will be able to record your own speech clips and trigger a prompt tone when the algorithm detects that you say "activate".

• Setup

- **Start IPython**

  You should start the IPython notebook from the homework_8 directory, with the jupyter notebook command.

• Experiments

There are ### START CODE HERE/### END CODE HERE tags denoting the start and end of code sections you should fill out. Take care to not delete or modify these tags, or your assignment may not be properly graded.

- **Q1: Create dataset (60 points)**
  Use insert_ audio_ Clip and insert_ One to create new training examples.
- **Q2: Model (40 points)**

  Compile and train keyword recognition model, which includes one-dimensional convolution layer, GRU layer and dense layer.
- **See the code file for details.**

• Submission

You need to accomplish the following files:

1) Trigger word detection Models

- Trigger_word_detection.ipynb

2) Report

- Please convert your experiment report to PDF format.
- You just need to upload all your code and report and do not upload datasets.