

Subject: 21AIE315

Lab Session: 02

Notes:

1. Please read the assignment notes carefully and comply to the guidelines provided.
2. Code should be checked into the GitHub and the report to TurnItIn. These details shall be provided in the Lab.
3. If you have not completed the prerequisite assignments, please complete them before starting these assignments.
4. Please use your headphone / earphones for lab experiments. Avoid using the device microphone / speakers (not to disturb others).

Main Section (Mandatory):

Please use the recorded voice of yours used in last lab session.

A1. Find the first derivative of your speech signal with finite difference method. Listen to the first derivative signal and the original speech signal.

A2. Detect the points of zero crossing in the first derivative signal. Compare the average length between two consecutive zero crossings for speech and silence regions. Observe the pattern.

A3. Speak 5 of your favorite words. Observe the length of the speech signals. Compare the lengths of your spoken words with those of your project team-mate.

A4. Select a sentence which can be used for making a statement or asking a question. Ex: "You are going to college on Sunday(./?)". Record two signals – one with making the statement while other with asking question. Study the two signals and compare them.

Optional Section:

O1. Think of a way to identify the spoken words boundaries from your speech signals.

Report Assignment:

1. Update your last week's report by adding the literature review section in IEEE format. Please conduct literature review with the downloaded papers. The Reference section should be added / updated with the list of papers used for literature review.
2. Add the experiments conducted on your recorded speech in Methodology section. Write the results obtained in results analysis section.
3. Summarize the outcomes of your experiments in conclusion section.