EE315 – DSP Lab
Project Proposal

Group Member/s:

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Summary:

In this project, we plan to design and implement **Edge Detection in an image.** Detecting an edge in an image is of great use as we can use that knowledge for feature extraction or pattern detection. Edges are usually made of high frequencies, so we need to do the necessary processing to find the frequency spectrum of the image and use appropriate filters to detect edges.

We will execute the project in 2 modules. In the below, we mention what will be achieved in each module.

Module 1:

In this module, we will accomplish the following.

- Apply Fourier Transform and convert an input image from spatial domain to frequency domain.
- Find the appropriate filters to find the edges accurately.

Module 2:

In this module, we will accomplish the following.

- Get the final distinct edge features from the image.
- Implement this learned concept of edge detection for a real-world problem.

Demonstration of DSP Concepts:

Our project demonstrates the following signal processing concepts (at least two):

1. Fourier Transform
2. Filters

I/O Devices:

We plan to use the following I/O devices (microphone/speaker etc.):

- Camera: Input device