Project 2: Image Recovery

**<Your name here>**

**<Your email here>**

##### Abstract

Insert a brief paragraph to describe the content of your project. Highlight the novelties of what you did. Keep in mind that the entire report **CANNOT BE LONGER THAN 4 PAGES** **IN THIS FORMAT**!

# 1. Overview

Give an overview of what you did in the project.

# 2. Mathematical Formulation

Describe how you formulate the image recovery problem as an under-determined linear system. Describe how you implement the OMP algorithm.

# 3. Experimental Results

For the small test image fishing boat: set block size 8x8 and try five different sample size, i.e., S=10, 20, 30, 40, 50. Show your recovered images after median filtering for each sample size. Show the mean square error (as defined in the slides) between the recovered images and the original image. Provide a figure of recovery error vs. number of samples for both configurations, i.e., with median filtering and without median filtering.

For the large test image lena: set block size 16x16 and try five different sample size, i.e., S=10, 30, 50, 100, 150. Show your recovered images after median filtering and recovery error.

NOTE: You must also submit your recovered images in your submission package in MATLAB .fig format.

You can also show any other interesting results that you find in this project.

# 4. Discussion

Please try to interpret your experimental results. Topics may include, but not limited to:

* Factors that may impact quality of the recovered image
* Limits or problems with your approach
* Possible improvements that can be made
* Anything unique you have done to improve/validate your program’s accuracy/efficiency

# References

1. Use an enumerated list here for any references, such as books or journal/conference papers.