Lab3 - Filtering Scale
Due 5/29/2024

1 Introduction

This lab is designed to help you get a better understanding and handling of how images and filters. Your job is to:

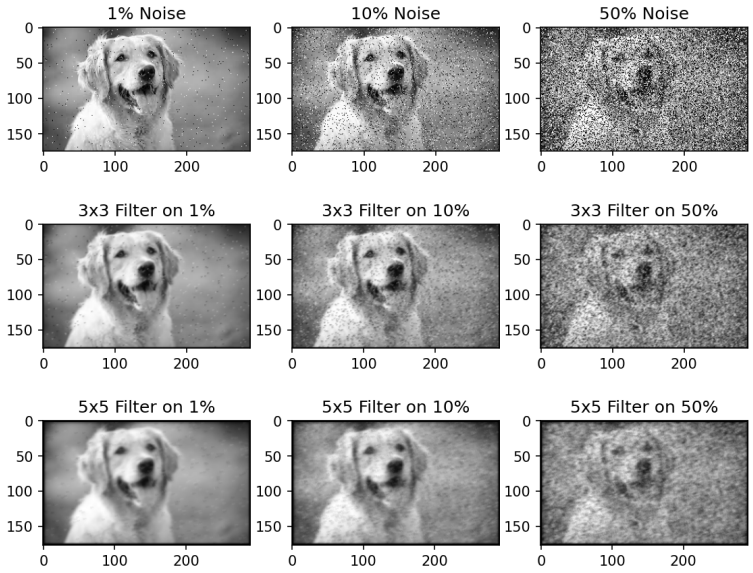
- Download the dog.jpeg from canvas and convert that to a grey scale image.
- Add a random Salt and Pepper noise (black and white) to the image at a 1%, 10%, and 50% noise level.
- Apply a 3x3 neighborhood filter, and a 5x5 neighborhood filter.
- Use a zero padding for each filter.
- Display your output in a 3x3 matplotlib graph showing the original image with each noise level along with the results after running each filter.

  You must write your own code.

2 Grading (Out of 100 points)

- 10 Points : Add your name and date to the beginning of your code.
- 10 Points : Use appropriate comments throughout your code.
- 20 Points : Added the appropriate amount of noise at each level.
- 20 Points : Zero padding is working with the 3x3 and 5x5 image.
- 20 Points : The 3x3 and 5x5 filter works correctly.
- 20 Points : Results are shown in a 3x3 grid with matplotlib with titles for each sub graph (see example output).

Example output



3 How to turn in

You must submit a zip folder that includes all files, folders, and images that are required to run your program. Name the zip folder "Lab3-Lastname.zip" and upload it to canvas

Good Luck Cat!