

SDPT & PAO project

Task: Focus evaluator + edge enhancer: sweep an image by H and W and get a score of pixel-to-pixel delta. Increase the large numbers and decrease the small numbers to fit all the color space, without overflow



Figure 1: Cat image before applying edge enhancement



Figure 2: Cat image after applying edge enhancement



Figure 3: Lena image before applying edge enhancement

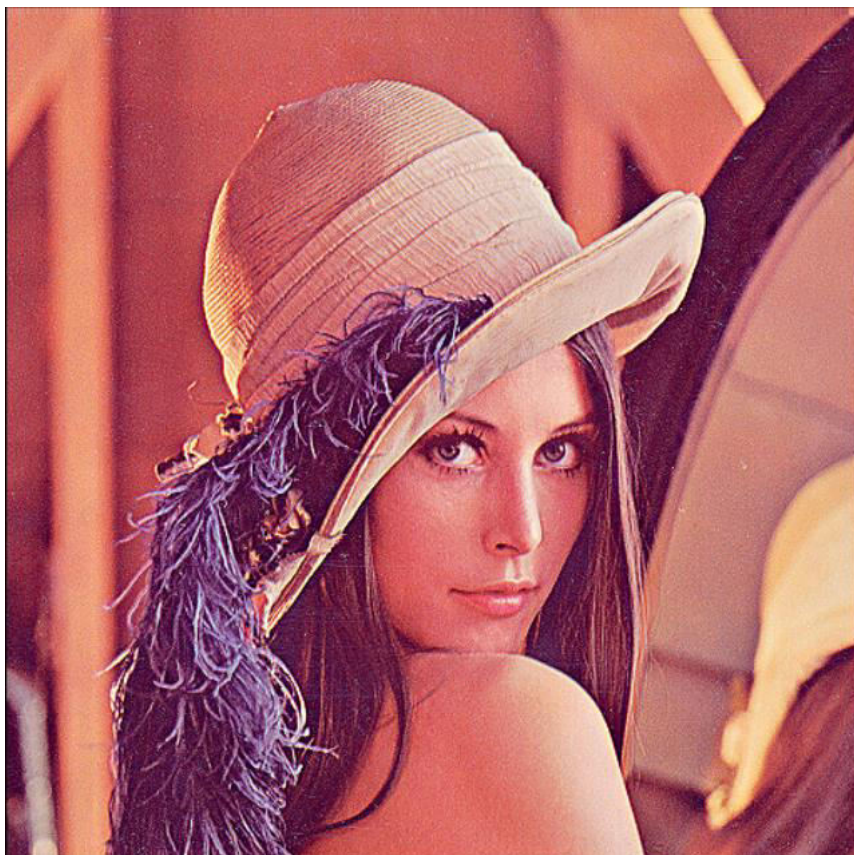


Figure 4: Lena image before applying edge enhancement

```
First for took 0.010324 seconds to run.  
Second for took 0.037775 seconds to run.  
Third for took 0.013620 seconds to run.  
Total time processing image: 0.061719 seconds  
Done processing image
```

Figure 5: Time for the processing part without using OpenMP

```
First for took 0.007116 seconds to run.  
Second for took 0.039874 seconds to run.  
Third for took 0.009308 seconds to run.  
Total time processing image: 0.056298 seconds  
Done processing image
```

Figure 6: Time for the processing part after using using OpenMP on
the first and third for loops in the processing code

Code:

<https://github.com/constAlexandru/Alexandru-Iulian-Constantinescu-project-ACES-2021-2022>

Running the code example:

```
make  
./prog image_cat.png
```

Bibliography:

SDPT course notes

PAO course notes

https://en.wikipedia.org/wiki/Edge_enhancement

<http://www.libpng.org/pub/png/libpng-1.2.5-manual.html>

<https://gist.github.com/niw/5963798>

<https://stackoverflow.com/questions/60291626/c-omp-no-significant-improvement>