

# CS 565 Computer Vision – Assignment 2

Dr. Nazar Khan

April 7, 2014

**Due Date:** Wednesday, 16th April, 2014 before class.

## Fourier Transform

Do all homework problems in the Fourier Transform lecture.

## Point Operations

1. In the function **myAffineRescaling.m** add the code that performs an Affine Grayscale Transformation of the input image between 0 and  $c$ .
2. In the function **myLogDynamicCompression.m** add the code that performs Logarithmic Dynamic Compression of the input image between 0 and  $c$ .

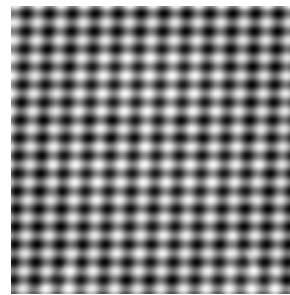
## Free the Boss



**bossJailed1.png**



**bossJailed2.png**



**mystery.png**

**Note:** The results from the Point Operations section will be useful for this section.

1. My boss has been abducted and jailed in a funny looking jail as shown in **bossJailed1.png**. I have heard that a strange space exists where getting my boss out of jail is very easy. I have been able to obtain some MATLAB code for going to that strange space and then coming back. This code is present in **unjail.m**. Can you help me free my boss in **bossJailed1.png** by removing the jail bars? Store the result in **bossFreed1.png**.
2. The abducters might have placed my boss in a maximum security prison as shown in **bossJailed2.png**. Can you free him from there too? Store the result in **bossFreed2.png**.
3. Impressed by your abilities to free captives, the abductors have challenged you to free a mystery captive in **mystery.png**. Can you free this captive as well? Who is the captive? Store the result in **Captive'sFirstNameFreed.png**.

## Submission

Submit your assignment as a .zip file via email to your TA Naila Hamid (nailahamid@pucit.edu.pk). The naming convention is

CompleteRollNumber\_YourName\_Assignment2.zip

For example, if my roll number is MSCSF13M999, then my .zip file should be named

MSCSF13M999\_NazarKhan\_Assignment2.zip

The .zip file should contain the following directories:

- **FourierTransform**
- **FreeTheBoss**

The **FourierTransform** directory should contain the following:

1. A .txt/doc file called README.txt/doc containing your answers. If you want to write the answers by hand, then a photograph or scanned copy of your answers should be placed here.

The **FreeTheBoss** directory should contain the following:

1. The files **myAffineRescaling.m** and **myLogDynamicCompression.m** supplemented with the missing code.

2. The file **unjail.m** supplemented with the missing code.
3. The images
  - (a) **bossFreed1.png**,
  - (b) **bossFreed2.png**, and
  - (c) **Captive'sFirstNameFreed.png**.
4. A .txt file called README.txt describing how you managed to free all the captives. This should also include the identity of the mystery captive.

**Note:** As an alternative to the README files for each part, you can submit a single .pdf file that contains all your results. For this you will need to use LaTeX just like I did in the official solution to Assignment 1 available in the Assignment1\solution\folder on \\printsrv. Feel free to use that as a starting template. **Remember: Word is ugly and LaTeX is beautiful!**