Final Project Report

Part A – Data Construction:

Discuss advice 2:

Show two clean images and their corresponding noisy and corrupted versions

Corrupted image 2

Clean image 1

Noisy image 2

Clean image 2

Noisy image 1

Corrupted image 1

Part B – Inpainting by the Oracle Estimator

Insert average PSNR result of the Oracle estimator:

Show clean, noisy, corrupted and Oracle-based reconstruction:

Noisy image

Clean image

Corrupted image

Oracle reconstruction

Part C – Inpainting by Greedy Pursuit

Insert average PSNR result of OMP:

Show clean, noisy, corrupted and OMP-based reconstruction:

Clean image

Noisy image

Corrupted image

OMP reconstruction

Compare between Oracle and OMP reconstructions:

Oracle reconstruction

OMP reconstruction

Discuss results of OMP and compare to Oracle performance:

Show average PSNR of OMP as a function of

Average PSNR as a function of

Discussion regarding the average PSNR as a function of :

Part D – Inpainting by Basis Pursuit

Insert average PSNR result of Basis-Pursuit:

Show clean, noisy, corrupted and BP-based reconstruction:

Clean image

Noisy image

Corrupted image

BP reconstruction

Compare between Oracle and OMP and BP reconstructions:

BP reconstruction

OMP reconstruction

Oracle reconstruction

Discuss results of BP and compare to greedy methods and to the oracle performance:

Show PSNR as a function of :

PSNR as a function of

Discuss how affects BP reconstruction:

Part E – Effect of Parameters

Show MSE as a function of and :

MSE as a function of

MSE as a function of

Discuss the effect of :

Discuss the effect of :