Projects
Image Processing With Applications
Spring 2006, Math597/Math 489/CSCI597
Deadline for submission March 25,2006

Project 1. Image averaging to noise decreasing and cleaning.
The project includes: survey of the existing literature; description of the theory; algorithm; C++ program to implement the algorithm; experiments. An input to the program is: the image; the noisy image; the number of sumations.
Team: 3 students

Project 2. Combine Laplacian and Gradient methods to develop an approach for X-ray and nuclear images enhancement. Download images from the Web.
The project includes: survey of the existing literature; description of the theory; algorithm; experiments.
Team: 2 students

Project 3. Local means and standard deviation to image enhancement.
The project includes: survey of the existing literature; description of the theory; algorithm; C++ program to implement the algorithm; experiments. An input to the program is: the image; the size of the local area (3x3, 4x4 etc); the coefficients k_0, k_1, k_2 and E.
Team: 3 students

Project 4. Survey and critical analysis of the recent methods, algorithms and tool to Video Restoration and Enhancement: a) contrast enhancement;
b) deblurring;
c) removal and compression of noise and artifacts.

The project includes: large survey of the present state of the art, critical analysis.
Team: 1 students

Project 5. Fourier and inverse Fourier transformation of an image.
The project includes: survey of the existing literature; applications, description of the theory; algorithm; C++ program to implement the algorithm; experiments. An input to the program is: the image.
Team: 4 students

Project 6. Image filtering by linear and weighted averaging filter.
The project includes: survey of the existing literature; description of the theory; algorithm; C++ program to implement the algorithm; experiments. An input to the program is: the image; the size of the mask; the values to be assigned to the mask.
Team: 4 students