

Projects

Image Processing With Applications

Spring 2007, Math597/Math 489/CSCI597

Deadline for submission April 21,2007

Project 1. A new image enhancement method and tool using calculus of finite differences of higher derivatives.

The project includes: survey of the existing literature; description of the theory; algorithm; C++ program to implement the algorithm; experiments, derived conclusions. An input to the program is: an image, the size of the mask's and its entries. Output: the enhanced image.

Team: Caleb Grisham, Ahmad Abdallah, Cody Fisher.

Project 2. A method to enhance light and/or dark zones of an image using means and standard deviation.

The project includes: survey of the existing literature; description of the theory; algorithm; C++ program to implement the algorithm; experiments, derived conclusions. An input to the program is: the image; the size of the local area subject of enhancement; the coefficients k_0 , k_1 , k_2 and C . Output: the enhanced image.

Team: Renee Townsend, Allison Davis, Josh D. Anderton,

Project 3. A gradient method for image enhancement using modified vector fields and Poisson partial differential equations with a Neumann Boundary Condition.

The project includes: survey of the existing literature; description of the theory; algorithm; C++ program to implement the algorithm; experiments, derived conclusions. An input to the program is: image, the size of the mask, and the entries of the mask. Output: the enhanced image.

Team: Jason Moore, Krishna Vaddepally

Project 4. Fourier and inverse Fourier transforms with notch filtering 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. Output: the filtered image.

Team: Ahmad Abdallah, Swathi Varanasi, Smitha Varanasi,