Image Super Resolution
Manohar Mareboyana Ph.D., Computer Science
Bowie State University

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Dr. Manohar Mareboyana is a professor in the Department of Computer Science. He joined Bowie State University in 1994 in the rank of an Asst. Professor. Before he became full time faculty at Bowie State University, Dr. Mareboyana was a Senior Research Scientist with Universities Space Research Association at GSFC/NASA during 1986-1994 where he conducted research in parallel image processing algorithms and image compression techniques. His current research interests include image and video processing, object tracking, and pattern recognition.

Abstract:

Super resolution (SR) is the process of artificially increasing the spatial resolution of an image corresponding to a scene given a set of observed low resolution (LR) images of the same scene that differ in sub-pixel translation. The low resolution images of the scene provide complementary information that will be used to estimate pixel values in denser grid. Constructing a SR image from a set of LR images is basically a constrained ill-posed problem, because there is no unique solution. In this presentation I describe different techniques of constructing SR images. I will also present two interpolation algorithms based on Radial Basis Functions (RBF) and Edge-Directed Radial Basis Functions (EDRBF) developed by me which performed better than other well-known spatial interpolation techniques.

Contact Dr. Soo-Yeon Ji (sji@bowiestate.edu) if you have any question.