

K. Visalini PhD Research Proposal

Image processing is a form of signal processing for which the input given is an image, such as a photograph or video frame; the output may be either an image or, a set of characteristics or parameters related to the inputted image. Most image-processing techniques involve treating the image as a two-dimensional signal and applying standard signal-processing techniques to it. The acquisition of images (producing the input image in the first place) is referred to as imaging.

Medical imaging is the process of producing visible images of inner structures of the body for scientific and medicinal study and treatment as well as a visible view of the function of interior tissues. This process pursues the disorder identification and management. This process creates data bank of regular structure and function of the organs to make it easy to recognize the anomalies. This process includes both organic and radiological imaging which used electromagnetic energies (X-rays and gamma), sonography, magnetic, scopes, and thermal and isotope imaging. There are many other technologies used to record information about the location and function of the body. Those techniques have many limitations compared to those modulates which produce images. Annually billions of images have been done globally for different diagnostic purposes. In this modern day, we use MRI, CT, Ultra sound scanners for producing images non-invasively.

The medical imaging processing refers to handling images by using the computer. This processing includes many types of techniques and operations such as image gaining, storage, presentation, and communication. The image is a function that signifies a measure of characteristics such as illumination or color a viewed sight. The digital images have several benefits such as faster and cheap processing cost, easy storing and communication, immediate quality assessment, multiple copying with reserving the quality, fast and cheap reproduction, and adaptable manipulation.

This area of Computer Vision has always intrigued me and I look forward to work on the same domain. Artificial Intelligence becomes the key underlying technology in realizing the ideations. Medical Image Processing has immense scope in the industry in addition to its extraordinary benefits in early detection of diseases and anomalies in patients.