Faculty Name: Javad Alirezaie

Project Title: Computed tomography image denoising using advanced image processing techniques

Description of Project (Provide ½ page project description)

One of the most useful tools in clinical application for diagnostic radiology is Computed Tomography (CT). There is a trade-off between the quality of the CT images and the dose level. Hence obtaining a good quality images needs increasing the radiation dose which can be harmful for the health especially for pediatric patients. The increasing exposure to radiation in population is considered a public health issue. The best approach is to do post image processing techniques to enhance the quality of the low dose and thus noisy images. Recently, different denoising algorithms have been developed in the CVIP research laboratory and preliminary results have been published. The main focus of this project is to improve and enhance the performance of the currently developed techniques.

Responsibility of Student (Specify the duties and responsibilities of the student)

In this research project, the intern applicant is required to familiarize himself/herself with these techniques and reproduce further results for publications. The applicant will also be involved in preparing journal manuscripts for publications.

Specify Requirements (Please state any specific requirement of this position)

Good scientific writing and programming skills in MATLAB.