



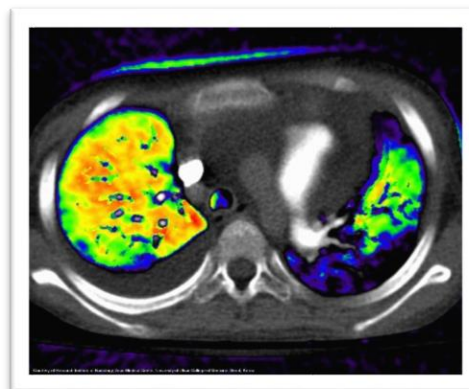
Tensor Based Reconstruction for Computed Tomography

NEW

Supervisor: Shahar Tsiper

Project description:

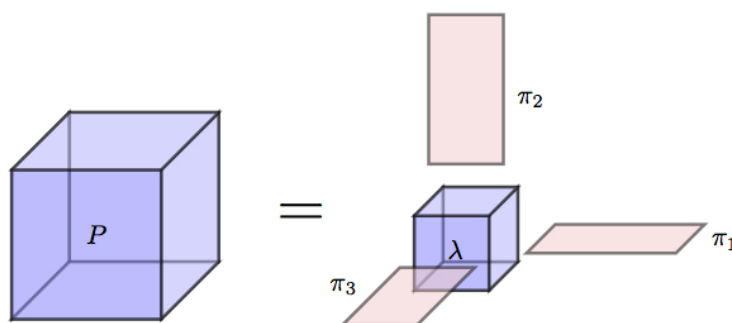
Medical CT imaging is probably the most widely used imaging tool in-use today. CT images suffer from different artifacts and issues, and generally require radiating a patient with a big dose of X-Ray radiation in order to produce good images.



In this project, we will learn on new tensor based algebraic techniques, and use them for solving difficult CT reconstructions, made with low radiation dosages.

Our goal would be to lower the radiation dosage, while improving the CT images, using tensor based methods that can exploit the inner structure of the human body.

The students will first learn on tomographic imaging, and will get familiar with the required background in advanced signal processing and tensor decompositions. We will then try and formulate a specific tensor based solution for the CT problem. We will work with state-of-the-art toolboxes, useful for many other problems, from the world of machine learning.



Required background: Signal and systems, Mavlas

Environment: MATLAB (Python also possible)

Contact Shahar for details:
tsiper@technion.ac.il