<u>Team Description</u>

<u>**Task:**</u> **Liver Segmentation (CT only)**

<u>**Team Name:**</u> Team NUST

<u>**Username:**</u> Fatimazahra

<u>**Team Member:**</u> Fatima tuz Zahra Khan

<u>**Email Address:**</u> fzahra.pg@smme.edu.pk

<u>**Institution:**</u> School of Mechanical and Manufacturing Engineering National University of Sciences and Technology, NUST Islamabad Pakistan.

<u>**Department:**</u> Department of Biomedical Engineering and Sciences SMME,NUST

<u>**Website:**</u>   [http://www.nust.edu.pk/INSTITUTIONS/Schools/SMME/Departments/DBE/Pages/de-fault.aspx](http://www.nust.edu.pk/INSTITUTIONS/Schools/SMME/Departments/DBE/Pages/default.aspx)

Overview of the technique:

First of all the images were extracted from the Dicom files. For this purpose, pydicom library of python was used. Then the extracted images were saved as png using Python Image Library. The images were then fed into U-net which was already trained on ImageNet. The training dataset was divided into validation and training sets with validation set being almost 20% of the whole training set. The learning rate used was 1×10^{-4} however it was reduced to 4 times less after 40 epochs and by times after more epochs. A total of 65 epochs were trained. The framework used is pytorch with fastai library.