In the name of God, the Merciful, the Compassionate

Intelligent Analysis of Biomedical Images CE-571
Computer Engineering Department
Sharif University of Technology
Fall 2020
Homework 2
Deadline: 28th of Aban 1399, 13:00

We want to predict the overall survival time of patients with lung adenocarcinomas using their diagnostic contrast enhanced CT scans. To accomplish this, a relevant TCIA dataset is suggested. You can download the entire dataset along with the metadata from this link. The dataset consists of 61 patients with varying numbers of CT slices and CT thicknesses. You can find the survival time of each of these patients (in months) in this file, in the table D. Train a classifier that takes the CT scan(s) as its input, and predict the vital status (dead or alive as mentioned in the same table). To avoid overfitting, perform a 5-fold cross validation of the patients and report the cross validated accuracy.

You should write a report of your work that presents your idea along with the numerical results. In addition, run the CAM (Class Activation Mapping) algorithm, introduced in the class, on 5 random patients and include them in your report.