

ISBI 2018 - Lung Nodule Malignancy Prediction Challenge

This challenge (<http://isbichallenges.cloudapp.net/competitions/15>) intends to advance methods development on the current clinical impediment to assess nodules status for lung cancer screening subjects with consecutive scans. We invite ISBI 2018 participants to develop algorithms or re-package computational methods with potential clinical utility to identify malignancy. We will provide sequential low-dose CT (LDCT) scans at two screening intervals from the [National Lung Screening Trial \(NLST\)](#), with matched identified nodules from the same subject. We would like the participating teams to provide estimated nodules dimensions (longest diameter, volume) in the screening interval and the probability of malignancy. The teams are open to use any radiomic descriptors for nodules across time points and or change in size measurements including doubling time (DT) toward their assessment. If teams prefer to use doubling time (DT) metric (measured in days), following formulation is stated for reference.

$$DT = (t_2 - t_1) * (\log 2 / (\log(V_2) - \log(V_1)))$$

Where V_1 , and V_2 are the nodules volume (or size) measured at two screening intervals; in our study, t_1 and t_2 are baseline and diagnostic scan time respectively. Participants may use any other preferred formulation, any variant formulation, need to be described with reasoning in their respective training summary report.

Specifically, participants are asked to submit files that include nodule size (longest diameter), volume, and a probability of malignancy score (range from 0 to 1, for absence or presence of cancer, respectively) for both the train and blinded test cases. The participants will be evaluated on the test data performance.

See more details about the ISBI 2018 conference at <http://biomedicalimaging.org/2018/>