

Explainable deep learning for CT scans in the context of COVID-19 – DL-COVID-19-CT

At present, the “Realtime Polymerase Chain Reaction Test” (RT PCR test) is the primary test for COVID-19 diagnosis. However, the accuracy of the test is influenced by many factors and is relatively low (Shi et al. 2020). The test has to be repeated several times in order to make a reliable statement. By means of a CT examination it is possible to identify changes in lung segments of COVID-19 patients. These changes can be employed for diagnosis. The use of CT examination for the diagnosis of COVID-19 has proven to be an important supplement to the RT-PCR test (Feng et al. 2020). However, the analysis of CT data is very demanding and can only be evaluated by radiologists. The project zeroes in on the automatization of the analysis of CT data by means of “Explainable Deep Learning” to support radiologists in their work and thus make diagnosis easier and more accurate.

