

# Evaluating current state of suspect anomalies in medical scans through Deep Learning

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**Abstract:** Medical suspect findings are spotted in medical images such as CTs and MRI scans. These findings may comprise of masses (malignant or benign), nodules or generally any space-occupying lesions. Subsequently, the patient follows a therapy and later is having new CTs or MRI scans to evaluate his response to the treatment in comparison to the previous state observed. However, this classic approach has a few drawbacks e.g., the doctor may not recognize suspect findings or evaluate them incorrectly. These drawbacks may be overcome with the utilization of a deep learning algorithm, which will be trained to identify suspect findings with high accuracy. Nowadays, the evolution of Deep Learning and its utilization in medicine is phenomenal and has been proved that can handle many medical tasks with great results. One of the main advantages of Deep Learning is that all necessary parameters are generated automatically in contrast to traditional Machine Learning. This research project aims to develop, deploy, and evaluate a deep learning algorithm which will take into account all patient's parameters automatically, rather than manually. Thus, and without any human intervention and with the use of medical scans only, the developed algorithm will be able to track and evaluate patient's current state of space-occupying lesions.