Defense Announcement

EXPLORING TECHNIQUES TO ANALYZE CHEST X-RAY USING GAZE DATA

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ABSTRACT: Even with the current technological advancements in the field of radiology, the error rate in radiology diagnosis has not decreased significantly. These errors result in thousands of deaths in the US alone. There is a need for change in radiological practices as the current system still relies on small group didactic lectures and informal tutorials, and they do not have a systematic and quantitative way to measure the performance of a radiologist over time. This thesis tries to address this issue by proposing the framework of a new toolkit that can provide thoracic radiology education with quantitative measurement and evaluation of radiologists' ability to detect thoracic imaging abnormalities and rich analysis of gaze patterns for learners to gain insight and self-reflect on their mistakes by using clustering, warping and classifier techniques.