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In the latest decades, Deep Learning (DL)-based approaches emerged as powerful tools for performing disease detection and classification. Although their great capability in modeling and analyzing complex mechanisms, the explainability of the underlying processes still remains a challenge, requiring careful validation and interpretation for human users.
We present a DL-based approach to classify Chest X-ray images over different pathologies (i.e., COVID-19, Tuberculosis Pneumonia, Viral and Bacterial Pneumonia), and esperimented with GradCAM, a visual explanation technique, to (i) identify visual features in the input able to explain the internal processes performed by a neural network during a classification task and (ii) assess soundness, correctness, and justification of results. GradCAM showed an interesting capacity in highlighting specific parts of the medical images that clinicians would also consider relevant for the classification.