

- Although CNNs show promise in image classification, their utility as decision support tools and adoption into clinical practice will depend on the rationalization of their decisions. This will bring much needed comfort and confidence allowing physicians to verify predictions made by the network and ensure predictions are not due to extraneous factors such as technique, position, or a host of other preprocessing factors. While our current network does not perform this task, the possibility exists and is an active area of research.
- The best approach to maximizing feature extraction and leveraging interdependencies among target labels likely entails training from data labeled with an ontology that inherently poses some consistent known relational structure.
- Work related to disease localization and improvement of classification performance is suggested.
- To tackle the difficulties in sample collection and annotation, semi-supervised learning methods will be explored.
- Investigate more accurate localization of the lesion areas.
- Work involving augmenting system capabilities by combining a priori task-specific knowledge such as a textual description with the visual words framework.
- Verification and Validation for larger sample size for texture based analysis.