Editor
Pattern Recognition

Dear Editorial Board of Pattern Recognition,

We wish to submit “Improving Chest X-Ray Report Generation by Leveraging Warm-Starting” for consideration in Pattern Recognition.

Our work addressing the need for a multi-modal machine learning approach—combining image and text representations—to generate captions for medical images. In particular, we utilise transfer learning from pre-trained models taken from both the general and medical domains.

The paper fits well within Pattern Recognition’s state aims of “computer vision, image processing, text and document analysis and neural networks”. Specifically, it would appeal to readers because it bridges all four of these stated topics by developing and evaluating models that combine image and text representation in a single neural network system. While this is evaluated within the context of generating natural language captions from medical images, the methods are general and would be of interest to those working with non-medical images.

**Related Pattern Recognition articles:**

Our manuscript has strong connection to the following articles recently published in Pattern Recognition:

- Ayesha et al. Automatic medical image interpretation: State of the art and future directions. Pattern Recognition, 114:107856, Jun 2021. (6 citations)
- Li et al. Multi-task contrastive learning for automatic CT and X-ray diagnosis of COVID-19. Pattern Recognition, 114:107848, Jun 2021. (21 citations)
- Singh et al. MetaMed: Few-shot medical image classification using gradient-based meta-learning. Pattern Recognition, 120:108111, Dec 2021.
- Wang et al. EANet: Iterative edge attention network for medical image segmentation. Pattern Recognition, 127:108636, Jul 2022.

A number of these use the same datasets and task of chest x-rays report generation. A key difference though is we employ new and emerging computer vision and NLP models to the task and investigate the key decision of which pre-trained model should be used for initialisation. This is becoming increasingly important as a plethora of pre-trained models are now available through repositories such as Huggingface.

We confirm that this work is original and has not been published elsewhere nor is it currently under consideration for publication elsewhere.

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Thank you for your consideration of this manuscript.

Sincerely,

A. Nicolson