

Research and development of some deep learning models in supporting the diagnosis of occupational silicosis based on chest X-ray images.

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Abstract: This study focuses on developing and optimizing Deep Learning models to support the diagnosis of occupational silicosis based on chest X-ray images. The main objective is to build an automatic classification system capable of accurately identifying the characteristic lesions of this disease. The primary approach is based on applying Convolutional Neural Network (CNN) architecture and transfer learning techniques to effectively process medical image datasets. The research results are expected to provide a powerful support tool for specialist physicians, helping to shorten screening time and reduce subjective errors in clinical assessment. The topic not only holds scientific significance in the application of artificial intelligence but also has important practical value in protecting workers' health.

Keywords: Deep learning, chest X-ray, silicosis, convolutional neural network, medical artificial intelligence