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Application of Convolutional Neural Networks in Satellite Data Interpretation for Solving Specific Forestry Problems: Analytical Review

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Abstract. The article presents general information about the principles of operation, structure and main types of convolutional neural networks (CNN), their training and optimization. The main metrics used to evaluate the interpretation of the results of CNN models are shown. The most common architectures of convolutional neural networks are described as applied to solving practical problems of image classification and segmentation, object detection. Examples of using convolutional neural networks to decipher Earth remote sensing data in solving practical problems of assessing changes in forest cover, forest taxation indicators and the state of stands under the influence of various factors are given.

Key words: forestry, artificial intelligence, computer vision, convolutional neural networks, forest cover dynamics, fire impact, forest condition, forest pathology monitoring.

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