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SEGMENTATION OF IMAGES GENERATED BY A MACHINE VISION SYSTEM FOR IDENTIFICATION OF AN OBJECT OF INTEREST BASED ON A STRUCTURAL FEATURE

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Abstract. The rapid development of artificial intelligence technologies significantly influences the creation, processing, and management of multimedia content. Modern multimedia systems increasingly incorporate machine learning algorithms to improve the quality, interactivity, and efficiency of information processing. This paper analyzes modern approaches to information support and interactive multimedia technologies and investigates the main problems of integrating artificial intelligence into multimedia systems for publishing and printing applications. Particular attention is paid to the compatibility of intelligent modules with existing digital control systems, computational complexity, data quality, and real-time processing requirements. The purpose of the study is to examine the possibilities of applying artificial intelligence in multimedia systems and to identify key challenges of their integration into technological processes of the printing industry. The research considers ways to increase automation, improve multimedia content quality, and enhance the efficiency of production workflows. The results demonstrate the significant potential of artificial intelligence for optimizing technological processes, increasing competitiveness, and improving product quality in multimedia-based printing systems. The findings can be used in the development and modernization of multimedia platforms with integrated artificial intelligence technologies.

Keywords: artificial intelligence, multimedia systems, integration problems, interactive technologies, information support, publishing and printing industry, automation, digital workflow