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## **Diagnosis of the Child's Emotional State Based on the Intellectual Analysis of Children's Drawings**

**Abstract.** This paper discusses the analysis of children's drawings based on machine learning, which allows for automating and improving the accuracy of diagnosing the emotional state of a child. The study identifies three fundamental categories of emotions that can be identified through the analysis of children's drawings: 'Happiness, Anxiety and Depression, and Anger and Violence. To automate the process of analyzing children's drawings, a convolutional neural network (CNN) is used, which is trained over ten epochs, where each epoch includes training and validation stages, using an error backpropagation algorithm and an optimizer to minimize the loss function. The results of CNN's work on the analysis of children's drawings are considered, which shows that the model quite clearly distributes children's drawings into the appropriate categories.

**Keywords:** Convolutional Neural Network; Diagnostics; Drawing; Emotional State of a Child; Training and Validation