



Review Report



Using deep learning to generate wood textures from pixels to planks

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ABSTRACT

The research titled "Pixels to Planks: Deep Learning for Wood Texture" explores the application of deep learning in analysing, classifying, and synthesizing wood textures from digital images. largely manual and subjective, relying on expert knowledge and physical inspection. These methods are time consuming, inconsistent, and limited in scalability. The proposed system uses a Convolutional Neural Network (CNN) integrated with texture enhancement and feature extraction layers to automatically recognize and generate realistic wood patterns. The model is trained on a curated dataset of high resolution wood images spanning different grain types, colours, and anomalies (e.g., knots, decay). The system outperforms traditional machine vision approaches in accuracy and adaptability, with potential applications in forestry, furniture design, quality control, and augmented reality.

Key words: Computer Vision, Image Processing, Feature Extraction, Neural Networks, Dataset Training, Pattern Recognition, Generative Models.

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