Enhancing Prescription Processing with Deep Learning: A Focus on Medicine Name Extraction from Handwritten Prescriptions

Abstract

Handwritten medical prescriptions are an essential part of healthcare, but the diversity and complexity of human handwriting often lead to misinterpretation, resulting in medication errors and adverse patient outcomes. This research proposes a deep learning-based system for the automatic recognition of medicine names in handwritten medical prescriptions. By leveraging convolutional neural networks (CNNs) along with hybrid techniques to extract key features and accurately identify medicine names within prescription images, this system aims to enhance both the accuracy and efficiency of medicine name recognition. The approach involves a comprehensive pipeline: preprocessing handwritten images, segmenting them into individual words, and applying the advanced CNN-based recognition model. This system is expected to address the challenges of varying handwriting styles, incomplete text, and low-quality images. The outcomes of this research will contribute to reducing medication errors, enhancing patient safety, and streamlining the prescription processing workflow in healthcare systems.

Keywords: Healthcare AI, Deep Learning, CNNs, Hybrid Models, OCR, Computer Vision, Medicine Name Recognition, Handwritten Prescription Analysis.