

S.NO	Papers (10)	Methodology	Pros	Cons	Research Gap
1	Open access•Journal Article•DOI (1) Web Application for Interpretation of Doctor's Handwritten Prescription and Suggesting the best Price Offer over Various e-Commerce Websites using AI Saumen Das. +1 more 01 Apr 2023-International journal of scientific research in computer science, engineering and information technology	<p>OCR and NLP techniques used for handwritten prescription interpretation.</p> <p>Named Entity Recognition and Relation Extraction for entity identification and relations.</p>	<p>Accurate recognition of handwritten medical prescriptions.</p> <p>Comparison of medicine prices across different e-commerce websites.</p>	<p>Offline techniques are computationally expensive.</p> <p>Need for understanding deep-learning processes used in the system.</p>	<p>Offline techniques are computationally expensive.</p> <p>Need for understanding deep-learning processes used.</p>
2	Open access•Proceedings Article•DOI (2) Doctor's Handwritten Prescription Recognition System In Multi-Language Using Deep Learning	<p>Recognition system using CNN, RNN, LSTM for multi-language prescriptions.</p> <p>Fuzzy search, market basket analysis for optimized pharmaceutical database results.</p>	<p>Improved accuracy in recognizing doctors' handwritten prescriptions.</p> <p>Eliminates human errors and allows easy access for users.</p>	<p>Loss of precision when generating data from English prescriptions.</p> <p>Time-consuming training process with 32 epochs taking 6 hours.</p>	<p>Lack of discussion on model performance evaluation metrics.</p> <p>Absence of comparison with existing prescription recognition systems.</p>

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[\(3\) Interpreting Doctor's Handwritten Prescription Using Deep Learning Techniques](#)
[Toko](#)

01-Jan-23

Chat with Paper

[Journal Article•DOI](#)

Model uses convolution layers for feature extraction.

Bi-Directional LSTM layers for recognizing text.

Integrates CNN and Bi-LSTM models.

Predicts text in doctor's prescription images accurately.

Utilizes convolution and Bi-Directional LSTM layers for feature extraction.

Integration of CNN and Bi-LSTM models for handwritten prescriptions.

Variability in output based on training images count.

Limited to English language, not suitable for other languages.

Loss of 0.4874

Variation in output based on training dataset and image count.

Limited to English language, not suitable for other languages.

Latin abbreviations causing misinterpretation of drug names and dosages.

4	<p>(4) Handwritten Prescription Recognition Using VGG Based Architecture with Bi-LSTM</p> <p>Isuru Kavinda +1 more</p> <p>04-Apr-24</p>	Achieved loss of 0.4874 and accuracy of 0.83.	Achieved loss of 0.4874 and accuracy of 0.83 in latest trial.	Accuracy of 0.83	Need for improved handwritten prescription recognition systems for patient safety.
5	<p>(5) DocAssist: Signature Perception System using Deep Learning</p> <p>Pooja Sharma +2 more</p> <p>23-May-24</p>	<p>DocAssist uses Convolutional Neural Networks for handwriting recognition.</p> <p>Achieved 81% accuracy in interpreting doctors' handwriting.</p>	<p>Enhances prescription legibility and accuracy.</p> <p>Improves patient safety and healthcare outcomes.</p>	<p>Variability in individual writing styles</p> <p>Lack of standardization in handwritten text</p>	<p>Lack of standardization in deciphering handwritten text.</p> <p>Need for improved recognition accuracy in medical field.</p>

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<p>Proceedings Article•DOI</p> <p>(8) Recognition of Handwritten Medical Prescription using CNN Bi-LSTM With Lexicon Search Aayush Razdan +5 more 06-Jul-23 Chat with Paper</p>	<p>CNN and Bi-LSTM used for Handwritten Text Recognition.</p> <p>Lexicon Search decoding algorithm for drug name database comparison.</p>	<p>Rapid digitalization of handwritten medical prescriptions.</p> <p>Solves ambiguity issues in deciphering doctors' handwriting.</p>	<p>Ambiguity and confusion in deciphering handwritten prescriptions.</p> <p>Challenges in advancing digitalization of medical prescriptions.</p>	<p>Lack of digitalization in handwritten medical prescriptions.</p> <p>Need for improved accuracy in deciphering doctor's handwriting.</p>
<p>Journal Article•DOI</p> <p>(9) Increasing the accuracy of handwriting text recognition in medical prescriptions with generative artificial intelligence Oleg Yakovchuk +1 more</p>	<p>Algorithm groups words into lines and blocks, preserving contextual connections.</p> <p>Generative neural network with large language model corrects recognition errors.</p>	<p>Improved recognition accuracy by 0.13%.</p> <p>Generative AI corrects errors in recognition results.</p>	<p>Grammatical errors in input data can deteriorate recognition results.</p> <p>Generative AI improved recognition accuracy by 0.13%.</p>	<p>Algorithm addresses handwriting recognition challenges.</p> <p>Generative AI improves accuracy by 0.13%.</p>

Journal Article•DOI	<p>Trained CNN model for different parameters to observe accuracy and loss.</p>	<p>Legibility and accuracy improvement in handwritten prescriptions.</p>	<p>Legibility and accuracy issues with handwritten prescriptions</p>	<p>Lack of discussion on potential limitations of CNN model.</p>
<p>(10) Convolutional Neural Networks for Handwritten Text Recognition of Medical Prescription Makarand R. Shahade +5 more 31 Dec 2023-Journal of Digital Information Management</p>	<p>Achieved maximum training accuracy of 89% and testing accuracy of 70%.</p>	<p>Automation of digitising prescriptions using Convolutional Neural Networks.</p>	<p>Potential human errors in manual digitisation process</p>	<p>Absence of comparison with other text recognition techniques.</p>