

{tag} International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

[Volume 175](#)

-
[Number 5](#)

Year of Publication: 2017

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10.5120/ijca2017915539

{bibtex}2017915539.bib{/bibtex}

Abstract

The recent advancement and development in technical fields and logistics has tackled the challenges of science and have delivered a good impact ratio by avoiding issues faced by fully or partially challenged and impaired people. The purpose of this paper is to provide easy facilities and improved services to a wide range of customers from school going children to teachers, professors, home tutors, visually impaired, and literary scholars. The title says it all, the concepts and theoretical background in the paper explains how the handwriting scripted in the image can be converted into textual information using several machine learning algorithms which follow the principles of supervised and unsupervised learning respectively. With the help of microcontrollers, feature extraction material, trainers and image processing concepts the proposed idea can be implemented feasibly. Machine learning algorithms such as Support Vector Machine, Random forest and neural nets algorithms have been compared and evaluated on basis of precision, recall, accuracy and other performance parameters. On comparing the mentioning algorithms it has been observed that 'SVM' algorithm outclasses the comparison test and gives out the best result in terms of accuracy, latency and robustness. On observing

the overall effects of algorithms and conversions between handwritten text into textual information (maybe pdf's). It has been concluded that the work can be further implemented on platforms such as e-learning, in which the application can be deployed on internet for android and iOS users with the help of mobile computing principles. Students in the classroom can just click a picture of what's written on the board by the professor and the application will convert the text written on the image into a PDF and save it in the internal memory of your gadget.

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Index Terms

Computer Science

Pattern Recognition

Keywords

Image Processing, Image Recognition, Machine Learning, Support Vector Machine, Supervised, Unsupervised, Clustering.