A Review Paper on Air Canvas Application and Text-to-Speech System using Deep Learning

Dumbre R. S[1], Gawade S. G[2], Dongare R. P.[3], Dr. Khatri A. A[4], Dr. Gunjal S. D.[5]

Students, Department of Computer Engineering[1,2,3]
Faculty, Department of Computer Engineering[4,5]
Jaihind College of Engineering, Kuran, India
rutujadumbre204@gmail.com, siddhigawade2002@gmail.com, dongarerenuka2151@gmail.com

Abstract: *Air Handwriting is one of the growing technologies in day by day life. Air handwriting enables user to write in air by using finger movements. The web camera detects the finger movements and converts it into readable format. This will be the natural way of communication with computer system. This will remove the need of physical input devices like keyboard, touchscreen and digital pen. This paper aims to provide an effective platform for both communication and practicing. The existing system has some disadvantages that are overcome in this paper. The existing system requires multiple fingers for writing. But using multiple fingers for different tasks like writing, changing color and erasing is complicated thing to remember. A strong, robust and efficient algorithm is proposed that will extract all the air writing trajectories or curves that are collected using a single web camera. The algorithm avoids restrictions on user's writing without using a delimiter and an imaginary box. The deep learning CNN algorithms are also used for converting hand written text into user readable text. Additionally, Optimizing algorithms for efficiency can help ensure smooth and responsive performance.*

Keywords: Air writing, OpenCv, Artificial Intelligence, optical character recognition, Text-to-speech, Handwritten text, color tracking

REFERENCES

[1]. CHAUR-HEH HSIEH 1,YOU-SHEN LO2,JEN-YANG CHEN AND SHENG-KAI TANG2, "Air-Writing Recognition Based on Deep Convolutional Neural Networks" October 21, 2021

[2]. YOUNG-SUN JOO 1,2, (Member, IEEE), HANBIN BAE1 , YOUNG- IK KIM1 , HOON-YOUNG CHO1 , AND HONG-GOO KANG 2 ,

[3]. (Member, IEEE)"Effective Emotion Transplantation in an End-to-End Text-to-Speech System " September 4, 2020.

[4]. IBRAR HUSSAIN 1,2, RIAZ AHMAD2 , SIRAJ MUHAMMAD2 , KHALIL ULLAH 3 , HABIB SHAH 4 , AND ABDALLAH NAMOUN

[5]. 5 , (Member, IEEE) "PHTI: Pashto Handwritten Text Imagebase for Deep Learning Applications",25 October 2022.

[6]. Palak Rai ,Reeya Gupta ,Vinicia Dsouza ,Dipti Jadhav , "Virtual Canvas for Interactive Learning using OpenCV ", Oct 7-9, 2022

[7]. Grigoris Bastas, Kosmas Kritsis and Vassilis Katsouros, 'Air-Writing Recognition using Deep Convolutional and Recurrent Neural Network Architectures" 2020 17th International Conference on Frontiers in Handwriting Recognition (ICFHR).

[8]. Pranavi Srungavarapu, Eswar Pavan Maganti, Srilekkha Sakhamuri, Sai Pavan Kalyan Veerada, Anuradha Chinta, "Virtual Sketch using Open CV ", IJITEE, Volume-10 Issue-8, June 2021

Copyright to IJARSCT
www.ijarsct.co.in

DOI: 10.48175/IJARSCT-14328

ISSN
2581-9429
IJARSCT

217