

Farming Robot for Seeding, Planting and Pesticide Spraying

Prof. S. G. Dighe¹, Miss. Padekar Aishwarya², Miss. Pathan Sadiya³,
Miss. Wakchaure Aditi⁴, Miss. Varpe Dnyaneshwari⁵

Prof. Electronics Engg. Department¹

Students, Electronics Engg. Department^{2,3,4,5}

Amrutvahini College of Engineering, Sangamner, India

Abstract: *This Sowing is the most important process in farming. It is a very tiring and time consuming process that requires a lot of human effort. Here we propose the design and fabrication of a fully automatic seed sowing robot that automates this task. The proposed robot uses four motors for running it in desired directions. We use a small bracket for pouring seeds. The robot consists of a funnel like arrangement in order to pour seeds into a lower container. There we use a shaft with gear like bucket teeth to pick up limited quantity of seeds and pour them on the ground in a steady manner in proper quantity. The front of the robot can be further fitted with a bent plate that drags on the soil to make a slot ahead of the machine before seeds are poured in it. The back portion of the robot can be fitted with a tail like bent rod that is again used to pour soil on seeds sowed thus covering them with soil. Thus the system completely automated the seed sowing process using a smartly designed mechanical robotic system. After 5-10 days it will recheck through machine learning algorithm if seeds is converted into plants or not. if not it will re-pour the seeds in same place as previous.*

Keywords: Image Processing, Pesticide Spraying, Raspberry Pi, Agriculture Robot, Seeding Mechanism

REFERENCES

- [1]. Prakash M. Manikar, Shreekant Ghorpade, Mayur Adawadkar, "Plant Leaf Disease Detection and Classification Using Image Processing Techniques," International Engineering Journal, Volume2, Issue 4, 2015.
- [2]. Prof. Bhavana Patil, Mr. Hemant Panchal, Mr. SHUBHAM Yadav, Mr. Arvind Singh, Mr. Dinesh Patil, "Plant Monitoring Using Image Processing, Raspberry PI and IOT," Journal of Engineering and Technology, Volume 4, Issue 10, 2017.
- [3]. Navin V. Dumare, Prof. S. S. Mungona, "Identification of Cotton Leaf Diseases Using Raspberry PI," Volume 5, Issue 5, 2017, International Journal on Recent and Technology Trends in Computing and Communication
- [4]. Prathamesh. K. Kharde, Hemangi. H. Kulkarni, "A Special Method for the Detection of Grape Leaf Diseases," International Journal of Scientific Research, Volume 2, Issue 4, 2016.
- [5]. Jayaprakash Sethupathy, Veni S, International Journal of Engineering and Technology, Volume 8, No 5, 2016, "Open CV Based Disease Detection of Mango Leaves."
- [6]. Basavaraj Tigadi, Bhavana Sharma, "Detection and Grading of Plant Disease Using Image Processing," International Journal of Engineering Science and Computing, Volume 6, Issue 6, 2016
- [7]. Jundare Manisha. A, Jundare Pallavi. T, Jundare Pragati. V, Prof. C.S.Aryan, International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering, Volume 5, Issue 3, 2016, "Plant Disease Detection and Image Processing."
- [8]. T.V.Sathya Sankari, V.R.S.Mani, "Image Segmentation Implementation Using Raspberry PI," Trends and Science International Conference on Energy Engineering, 2016.

- [9]. A.A.C.Fernando, and C.Ricardo, "Robotics for Agriculture, Unmanned Robotic Service Units for Agricultural Tasks," IEEE Industrial Electronics Magazine, pp. 48-58, Sep 2013.
- [10]. B.L.Theraja and A.K.Theraja, "The Electrical Technology Text Book in S.I. Units, Volume II, AC & DC machines, Technical Publications for S.Chand