

# Implementation of Solar Based Multipurpose Agriculture Robot using Random Forest Algorithm

**Prof. Aabhale B. A, Mr. Mitke Samadhan, Mr. Chavan Sunil,**

**Mr. Phatangare Navnath, Mr. Thorat Mangesh**

SND College of Engineering & Research Centre, Yeola, India

atual.aabhale@gmail.com, samadhanmitake0@gmail.com, sunilnchavan802@gmail.com

navanathphatangare88@gmail.com, thoratmangesh2017@gmail.com

**Abstract:** *In India majority of the people depends only on agriculture. Agriculture is the process of working on the ground, planting seeds and growing the crops. Nowadays only few are involved in farming it is because of the increasing of the cost for the pesticides, seeds and equipment, and also increasing of the man power. The major drawback in agriculture field is due to reducing of the crop yield. It is because of lack of awareness towards soil i.e., which crop should be grown on particular area. All these factors will make the farmers not to do the farming in an efficient way. This paper proposes Solar based multipurpose agriculture robot using Random Forest Algorithm. This system will reduce the manpower and increase the crop yield. This proposed system will do operations like seed sowing, pesticide spraying, solar panel for getting the energy to run the robot etc. The total work should be done with almost emerging technology like Machine learning. In this we are using a random forest algorithm concept for getting an efficient output which will be more helpful to the farmers and output can be displayed with a mobile app so that he/she can see the details of the field in an easier manner.*

**Keywords:** Random Forest algorithm, IoT Cloud, Seed Sowing, Pesticide Spraying, Solar panel, Robot mechanism

## REFERENCES

- [1] R. Ramya, C. Sandhya, and R. Shwetha published paper on "Smart farming systems using sensors" (IEEE-2017).
- [2] Manjunath, Gurucharan, Shwetha and Prof. Melwin DSouza published paper on "IoT Based Agricultural Robot for monitoring plant Health and Environment" (Journal of Emerging Technologies and Innovative Research (JETIR)-2019).
- [3] Chandana, Nisha M, Pavithra B, Sumana Suresh and Nagashree published paper on "A Multipurpose Agriculture Robot for Automatic Ploughing, Seeding and Plant Health Monitoring" (IJERT-2020).
- [4] Jaya Priya, Anagha, Megha, Harshitha published paper on "Automatic Farming Robot for Smart and Effective Cultivation" (IJARCCE-2021).
- [5] Kasara Sai Pratyush Reddy, Y Mohana Roopa, Kovvada Rajeev, Narra Sai Nandan published paper on "IoT based Smart Agriculture using machine Learning" (IEEE-2020).
- [6] T Rahul Sudharsan, Gowtham S, Dr. S.Revathy, Dr. T. Bernatin, L. Mary Gladence and V. Maria Anu published paper on "Smart Farming Using IoT" (ICCM 2022).
- [7] Abhiram MSD, Jyothsnavi Kuppili and BS N. Aivelu Manga published paper on "Smart Farming using IoT for Efficient Crop Growth" (IEEE 2020)
- [8] Ioana M. Marcu and George Suci published paper on "IoT based System for Smart Farming" (ECAI- International Conference 2019).
- [9] Ibrahim Mat, Mohamed Rawidean Mohd Kassim, Ahmad Nizar Harun and Ismail Yusoff published paper on "Smart Agriculture using Internet of Things" (IEEE 2018 Conference on Open System (ICOS)).
- [10] Rahul Dagar, Subhranil Som and Sunil Kumar Khatri published paper on "Smart Farming - IoT in Agriculture" (ICIRCA 2018).

- [11] Prathiba S R, Anupama Hongal and Jyothi M P published paper on “IoT based Monitoring System in Smart Agriculture” (ICRAECT 2017).
- [12] G. Sushanth and S. Sujatha published paper on “ IoT based Smart Agriculture System” (IEEE 2018).
- [13] Prof Chandrakant D.Bhos, Shrutika M.Deshmukh, Prajakta A.Bhise and Shweta B.Avhad published on “Solar Powered Multi-Function Agri-Robot”(IRJET 2020)
- [14] Toushia Parveez, Wafa Maheen Sherrief, Prakruthi J and Ramya M B, Sahana MS “ Internet of Things(IoT) Based Agriculture Robot” (IRJET 2021)
- [15] B S Balaji, Shivakumara M C, Sunil YS, Yamuna A S and Shruthi M published paper on “Smart phone operated multipurpose Agriculture Robot” (IRJET 2018)