

Automated Seed Sowing Robot

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Abstract: *The automated seed-sowing robot is an innovative agricultural technology designed to revolutionize the process of planting seeds. With a compact and efficient design, this robot aims to increase efficiency and precision in agricultural practices while reducing labor requirements. Equipped with advanced sensors and intelligent algorithms, the robot is capable of accurately identifying suitable planting locations based on soil conditions, sunlight exposure, and other environmental factors. It autonomously navigates the field, using its robotic arm to plant seeds at optimal depths and spacing, ensuring uniform distribution for optimal plant growth. The robot's automated capabilities extend beyond planting. It can also monitor and adjust its actions in real-time, responding to changing weather conditions or variations in soil quality. Additionally, the robot is programmed to avoid obstacles and operate safely in the field, minimizing the risk of damage or accidents. By replacing manual labor, the automated seed-sowing robot streamlines the planting process, saving time and resources for farmers. Its precision planting capabilities contribute to higher crop yields and improved agricultural productivity. With this technology, farmers can embrace sustainable farming practices and enhance food production to meet the growing global demand.*

Keywords: seed-sowing robot

REFERENCES

- [1]. K. Shaik, E. Prajwal, S. B, M. Bonu and V. R. Balapanuri, "GPS Based Autonomous Agricultural Robot," 2018 International Conference on Design Innovations for 3Cs Compute Communicate Control(ICDI3C),Bangalore, 2018.
- [2]. Tanmay Baranwal, Nitika, Pushpendra Kumar Pateriya "Development of IoT based smart security and Monitoring Devices for Agriculture", Cloud System and Big Data Engineering (Confluence), 6th International Conference on, 2016.
- A. Satya, B. Arthi, S. Giridharan, M. Karvendan, J. Kishore "Automatic control of irrigation system in paddy using WSN", Technological Innovations in ICT for Agriculture and Rural Development (TIAR), 2016.
- [3]. G. Amer, S. M. M. Mudassir and M. A. Malik, "Design and operation of Wi-Fi agribot integrated system," 2015 International Conference on Industrial Instrumentation and Control (ICIC), Pune, 2015.
- [4]. Nagdeve, P. Jangde, H. Tandulkar, S. Dhara, N. Ukani and S. Chakole (2020), "Solar-powered Android based Speed Control of DC motors through Secure Bluetooth" Bombay Section Symposium (IBSS), 2015.
- [5]. M. Usha Rani and S. Kamalesh, "Web based service to monitor automatic irrigation system for the agriculture field using sensors," 2014 International Conference on Advances in Electrical Engineering (ICAEE), Vellore, 2014.
- [6]. Aravind Kumar, Akkarapalli sanjeev Reddy, k. Sagathevan. "Automatic seed sowing and irrigation agriculture robot (2021)
- [7]. Emerging technology and Computer Science, Volume: 01, Issue: 01, February 2016.
- [8]. Calvin Hung, Juan Nieto, Zachary Taylor, James Underwood and Salah Sukkarieh, "Orchard Fruit Segmentation using Multi-spectral
- [9]. Feature Learning", IEEE/RSJ International Conference on Intelligent Robot System Tokyo, Japan, 3-7, November 2013.
- [10]. P. Giftson Paul, B. Jyothir Rishiek, Y. Sharan Kumar, M. R. Mahalakshmi, L. Jiban Priya "Solar Controlled Unmanned Seed Sowing Robot" (2021)

- [11]. Jaya Krishna P V.S. Suryavamsi Reddy Jaswant Sai N”Autonomous Seed Sowing Agricultural Robot.”(2021)
- [12]. Nitave Ranjit, Waghmode Harshad ,”solar seed sowing machine “ISSN 0973-4562 Volume 13, Number 6 (2018)
- [13]. Pankaj Kumar , G. Ashok , M.A.Malik”Design and fabrication of smart seed sowing robot ”(2015)