

Hydroponic Monitoring System using IoT

Mrs. T. G. Hampe¹, Shamal Tagad², Anuradha Vibhute³, Rahul Tagad⁴, Suraj Gund⁵

Professor, Department of Electronics & Telecommunication¹

Students, Department of Electronics & Telecommunication Engineering^{2,3,4,5}

Smt. Kashibai Navale College of Engineering, Pune, India

Abstract: *The use of hydroponic systems for growing crops is becoming increasingly popular due to its efficiency and sustainability. However, monitoring and controlling these systems can be challenging and time-consuming. This is where the Internet of Things (IoT) comes into play, as it allows for the real-time monitoring and control of hydroponic systems from anywhere at any time. In this paper, we explore the use of IoT for monitoring and controlling hydroponic units, including sensors for measuring various parameters such as pH, temperature, and nutrient levels, and actuators for controlling water and nutrient supply. We also discuss the advantages of using IoT for hydroponic farming, such as increased yield and reduced resource usage, as well as potential challenges and future research directions. Overall, this paper provides a comprehensive overview of the use of IoT in hydroponics and its potential to revolutionize modern agriculture*

Keywords: Agriculture; Automation; Hydroponics; Arduino

