



IoT and AI Application for Implementation of Smart Gardening and Irrigation System

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CERTIFICATION

I certify that I have read this thesis and that it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

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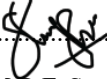
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ABSTRACT

IoT and AI Application for Implementation of Smart Gardening and Irrigation System

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This thesis presents a smart gardening and irrigation system that utilizes the Internet of Things and artificial intelligence. This system uses innovative technologies to enhance plant maintenance's efficiency and long-term viability. The system integrated a network of sensors and analytics driven by artificial intelligence to monitor environmental conditions and plant health. This technique facilitated precise gardening and disease management. A smartphone application was created for that, which aims to provide gardeners with real-time data and control over their gardening systems. The mobile application was enhanced with user-friendly and intuitive features, making it even easier to use. This innovative technology represents a significant advancement in smart home systems and sustainable living practices. It aims to save water, optimize plant growth, and provide a personalized and intelligent gardening experience. The research provides a concise overview of the design, implementation, and potential impact of this technology, emphasizing its significance in promoting gardening solutions that are visually appealing and ecologically sustainable.

Keywords: Smart Gardening, Internet of Things, Artificial Intelligence, ESP32, Disease Detection

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LIST OF ACRONYMS AND ABBREVIATION

IoT	Internet of Things
AI	Artificial Intelligence
WSN	Wireless Sensor Network
UI	User Interface
UAT	User Acceptance Test
ML	Machine Learning
UX	User Experience
CC	Cloud Computing
RFID	radio frequency identification
AVC	Agriculture Value Chain
ESP32	Espressif32
PLS	Partial Least Square
SEM	Structured Equation Model
CR	Composite Reliability
TAM	Technology Acceptance Model
UTAUT	Unified Theory of Acceptance and Usage Model