FINAL YEAR PROJECT REPORT

CROPTECNIX

In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)

By

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ANZAH ALI	**70157 (BSCS)**
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SUPERVISED

BY
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BAHRIA UNIVERSITY (KARACHI CAMPUS)

SPRING-2024

DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged.. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

Signature : _____

Name : Alina Nadeem

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Reg No. : 70157

Signature : _____

Name : Alina

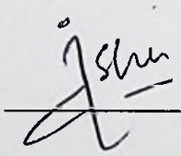
Reg No. : 70135

Date : 14-06-2024

APPROVAL FOR SUBMISSION

We certify that this project report entitled **"CROPTECNIX"** was prepared by **ALINA NADEEM, ANZAH ALI,** and **ALINA** has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of Science in Computer Science at Bahria University, Karachi.

Approved by,

Signature : 

Supervisor: Ms. Aisha Danish

Date : 14/06/2024

With heartfelt gratitude, we dedicate this project to our families for their unwavering support and love. Special thanks to our teachers, Dr Ghulam Muhammad Sheikh and Engr. Syed Zia Uddin, for their exceptional guidance and encouragement.

Alina Nadeem, Anzah Ali, Alina

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CROPTECNIX

ABSTRACT

Agriculture sector is the largest contributor of Pakistan's economy, with a significant amount of the population being dependent on this crucial sector either directly or indirectly. It plays a pivotal role, contributing approximately 24 percent of the (GDP) Gross Domestic Product and employing half of the nation's labour vigour. Furthermore, it stands as the largest source of foreign exchange earnings, ensuring economic stability. This sector serves as the backbone of Pakistan, providing sustenance for both rural and urban populations. However, it is important to acknowledge that the field of agriculture is still facing challenges. Issues like soil variation, irrigation problems, and the persistent threat of pest and fungal infections pose hurdles in maximum crop yield that requires innovative solutions. Precision agriculture, also known as precision farming, involves using technology and data to optimize agricultural practices with pinpoint accuracy, maximizing crop yields while minimizing resource wastage. Embracing technology and modern farming practices is becoming increasingly imperative to address these challenges and ensure the continued growth and sustainability of Pakistan's agricultural sector. Using Unmanned Aerial Vehicles (UAVs) and applying deep learning algorithms, Croptecnix aims to empower farmers and local people to make informed decisions, improve resource usage, and eventually enhance productivity. Farmer can control the system through a user-friendly web application. Our mission is clear: to empower farmers with the tools and knowledge required to overcome these challenges, increase productivity, and elevate their quality of life. Croptecnix signifies a commitment to transforming Pakistan's agriculture, reducing poverty rates, and unlocking the full potential of this crucial sector.

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