VISVESWARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belgaum-590014, Karnataka

A

INTERNSHIP REPORT ON

"Implementing Proactive Monitoring for Continuous Availability"

Submitted in partial fulfillment for the requirement of an 8th semester

BACHELOR OF ENGINEERING

In

COMPUTER SCIENCE AND ENGINEERING

By

ROSHAL MARY JEEVAN DSOUZA (1AH21CS090)

Under the guidance of

Dr. T Senthil Kumaran

HOD & professor

Department of CSE

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ACS COLLEGE OF ENGINEERING

#74, Kambipura, Mysore Road, Bengaluru – 560074

2024-2025

ACS COLLEGE OF ENGINEERING

#74, Kambipura, Mysore road, Bengaluru – 560074

Department of Computer Science and Engineering

CERTIFICATE

Certified that the Internship on topic **"Implementing Proactive Monitoring for Continuous Availability** on domain **"Devops Engineer"** has been successfully submitted by **TAZEEN FATHIMA M (1AH21CS114) a** bonafide student at **ACS COLLEGE OF ENGINEERING** affiliated to **Visveswaraya Technological University, Belgaum** during the year 2024-2025. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report submitted to the department. The Internship report has been approved as it satisfies academic requirements in respect of internship work as prescribed in the 8th semester.

Signature of the Guide	**Signature of the HOD**	**Signature of the Principal**
Dept of CSE	Dept of CSE	ACSCE, Bangalore
ACSCE, Bangalore	ACSCE, Bangalore	

Name of the examiners

Signature with date

ACS COLLEGE OF ENGINEERING

#74, Kambipura, Mysore road, Bengaluru – 560074

Department of Computer Science and Engineering

DECLARATION

I **Roshal Mary Jeevan Dsouza (1AH21CS090)**, bonafide student of 8th semester of B.E of **ACS College of Engineering, Bangalore**, hereby declare that Internship Report entitled **"IMPLEMENTING PROACTIVE MONITORING FOR CONTINUOUS AVAILABILITY"** has been carried out by under the guidance of Dr. T Senthil Kumaran , the work undertaken by me during the Internship from Sept 2024 to Feb 2025 that I have undergone at **"Rooman technologies pvt ltd"** in partial fulfilment of the requirement for the award of degree of Bachelor of Engineering in Computer Science Engineering of the Visvesvaraya Technological University, Belgaum during the academic year 2024- 2025.

Date -

Place - Bangalore

Roshal Mary Jeevan Dsouza

1AH21CS090

CERTIFICATE

आईटी–आईटीईएस सेक्टर स्किल्स काउंसिल
IT-ITeS Sector Skill Council

राष्ट्रीय व्यावसायिक शिक्षा एवं प्रशिक्षण परिषद द्वारा मान्यता प्राप्त
Recognised by NCVET

कौशल योग्यता प्रमाणपत्र
Certificate for Skill Competency

प्रमाणपत्रसंख्या
Certificate No:

AEKAA0021QG-05-IT-00493-2023-V1.1-NASSCOM-074662

प्रमाणित किया जाता है कि श्री / सुश्री / एमएक्स
This is to certify that Mr./Ms./Mx. **Ms. Roshal Mary Jeevan D Souza**

सुपुत्री
Daughter of _____ Jeevan Dsouza

जन्म तिथि
Date of Birth __ 24/07/2003

नामांकन संख्या
Enrolment No __ CAN_33716395

ने जॉब रोल / अर्हता का आकलन सफलतापूर्वक
has successfully cleared the assessment in the job role/qualification _____ Ai Devops Engineer

अवधि
of Duration ___ 480 Hrs

अर्जित किया
having earned ___ 16

क्रेडिट एनसीआरएफ / एनएसक्यूएफ स्तर
Credits at NCrF/NSQF Level ___ 5

प्रशिक्षण केन्द्र
Training Centre ___ ACS COLLEGE OF ENGINEERING ,BANGALORE

जिला
District __ BENGALURU URBAN

राज्य
State __ KARNATAKA

प्रतिशत / श्रेणी के साथ उत्तीर्ण किया।
with ___ **B** ___ %/Grade

जारी करने का स्थान
Place of Issue: Uttar Pradesh

जारी करने की तिथि
Date of Issue: 21/03/2025

PMKVY

IT - ITeS SSC
nasscom

नाम Name:
Sindhu Ganpathan
पद Designation:
Chairperson
हस्ताक्षर Signature:

e-सत्यापन लिंक
e-Verification link:
NCrF - National Credit Framework
NSQF - National Skills Qualification Framework
https://admin.skillindiadigital.gov.in/documentverification.nsdcindia
Digitally Generated Certificate

Signature of HOD
Dept of CSE
ACSCE, Bangalore

Signature of Guide
Dept of CSE
ACSCE, Bangalore

Signature of Principal
ACSCE, Bangalore

A H FURNITURE & INTERIORS
No.3511,Raghuvanahalli
Banashankari 6th phase
Bengaluru – 560062
Ph no: 9902270440
GST:29AQDPM284D1ZZ
College TC ID:276151

ON THE JOB TRAINING

Issued on : 05/03/2025

This is to certify that Ms **Roshal Mary Jeevan Dsouza ,CAN_33716395,** D/o , **Jeevan kumar Dsouza** has successfully completed the On-the-Job-Training(OJT) for the course **AI-Devops engineer** conducted by **A H Furnitures & Interiors** facilitated by TC276151,Visvesvaraya Technological University (TP _ID: TP199028) from **17th Feb 2025** to **5th March 2025** at **A H Furnitures & Interiors,No.3511 ,Raghuvanahalli, Banashankari 6th phase ,Extension 4th block, Bengaluru – 560062.**

(Seal of the company)
(Signature)

ACKNOWLEDGMENT

I take this opportunity to express my sincere gratitude and respect to the **ACS College of Engineering,** Bengaluru for providing me an opportunity to carry out Internship report.

I express my deep regards to my honorable chairman **Sri Dr. A.C. Shanmugam** for providing me an opportunity to fulfil my ambition in this prestige institute.

I would like to express my immense gratitude to **Dr. Anand Thirtha B Gudi** Principal, ACS College of Engineering, Bengaluru, for his timely help and inspiration during the tenure of the course.

I express my sincere regards and thanks to **Dr. T Senthil Kumaran** Professor & HOD, Computer Science and Engineering, ACSCE, Bengaluru for the encouragement and support throughout the work.

I hereby like to thank our Internship Coordinator express **Mr Venkatesh** Assistant Professor, Computer Science and Engineering, ACSCE, Bengaluru for the encouragement and support throughout the work.

I am highly thankf

ul to our guide **Dr. T Senthil Kumaran** for giving me a valuable suggestion, providing cooperation and moral support towards completion of department Internship Work.

I also extend my cordial thanks to **Rooman technologies Pvt ltd** Bengaluru for providing me an opportunity to carry out the internship in their organization.

<div align="right">

ROSHAL MARY JEEVAN DSOUZA
1AH21CS090

</div>

ABSTRACT

In today's fast-paced digital environment, ensuring continuous availability of applications and services is critical for business success. This project focuses on implementing a proactive monitoring system within a DevOps framework to predict, detect, and resolve system issues before they impact end-users. By integrating modern tools such as Docker, Kubernetes, Prometheus, Grafana, SonarQube, and security platforms like Trivy and Aqua Security, the solution provides real-time insights into system health, application performance, and infrastructure status. Automated alerts and dashboards enable teams to make rapid decisions, while vulnerability scanning and static code analysis enhance security posture. This proactive approach reduces downtime, improves reliability, and ensures seamless service delivery, making it an essential solution for modern, scalable, and secure IT operations..

CONTENTS

CONTENTS

CHAPTER 1

INTRODUCTION

1.1 COMPANY PROFILE

Rooman Technologies Pvt. Ltd. is a leading IT training, solutions, and services company founded by a group of professionals with extensive industry experience in networking, cybersecurity, embedded systems, cloud computing, and software development. With a strong focus on skill development and enterprise solutions, Rooman has built a reputation for delivering high-quality training programs and innovative IT services across India and abroad.

Initially, Rooman Technologies focused on providing hardware and networking training through industry-aligned certification programs. Over the years, it expanded its portfolio to include corporate IT training, software development, project consulting, and managed services for enterprises. The company also partners with top technology vendors like Microsoft, Cisco, Red Hat, and EC-Council to deliver globally recognized certifications..

Since its inception, Rooman has played a pivotal role in skill development by training thousands of professionals and students in IT, embedded systems, and security domains. Their training centers are equipped with modern labs and tools to deliver hands-on learning experiences aligned with current industry needs.