VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belagavi-560014, Karnataka

A PROJECT REPORT ON

"Detection and Prediction of COVID-19 Adverse Drug Effects like Black Fungus using CNN"

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE

BACHELOR OF ENGINEERING
IN
COMPUTER SCIENCE & ENGINEERING

Submitted By

Bharathi H	**[1SV19CS016]**
Pramod R	**[1SV19CS052]**
Rakshith B R	**[1SV19CS056]**
Ravindra H V	**[1SV19CS057]**

Under the guidance of

Mr. Girish L

Assistant Professor, Dept. of CSE.

PRINCIPAL
SIET. TUMKUR.

SHRIDEVI EDUCATION

Department of Computer Science and Engineering

SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY
(Affiliated To Visvesvaraya Technological University)
Sira Road, Tumakuru – 572106, Karnataka.

2022-2023

Sri Shridevi Charitable Trust (R.)
SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY
Sira Road, Tumkur - 572 106, Karnataka, India.
Phone: 0816 - 2212629 | Principal: 0816 - 2212627, 9686114899 | Telefax: 0816 - 2212628
Email: info@shrideviengineering.org, principal@shrideviengineering.org | Website: www.shrideviengineering.org
(Approved by AICTE, New Delhi, Recognised by Govt. of Karnataka and Affiliated to Visvesvaraya Technological University, Belagavi)

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that, project report of entitled "Detection and Prediction of COVID-19 Adverse Drug Effects like Black Fungus Using CNN" has been successfully carried out by Bharathi H [1SV19CS016], Pramod R [1SV19CS052], Rakshith B R [1SV19CS056], Ravindra H V [1SV19CS057] in partial fulfillment for the award of **Bachelor of Engineering** in **Computer Science & Engineering** of the **Visvesvaraya Technological University, Belagavi** during the academic year **2022-23.** It is certified that all the corrections/suggestions indicated for internal assessments have been incorporated in the report. The Project report has been approved as it certifies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

Girish

Signature of Guide
Mr. Girish L
Assistant Professor,
Dept. of CSE,
SIET, Tumakuru.

24/5/23

Signature of H.O.D
Dr. Basavesh D B.E., M.Tech., Phd.
Associate Professor & HOD
Dept. of CSE,
SIET, Tumakuru.

Signature of Principal

Dr.Narendra Viswanath M.E., Ph.D., MIE, MISTE, MIWS., FIV.,
Principal,
SIET, Tumakuru

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External Viva

Name of the Examiners	Signature with date
1 Dr. Basavesha D	
2 WASIM UDDIN	25/5/23

Sri Shridevi Charitable Trust (R.)
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DECLARATION

We, **Bharathi H [1SV19CS016], Pramod R [1SV19CS052], Rakshith B R [1SV19CS056], Ravindra H V [1SV19CS057],** students of VIII semester **B.E** in Computer Science & Engineering, at Shridevi Institute of Engineering & Technology, Tumakuru, hereby declare that, the Project work-II entitled **"Detection and Prediction of COVID-19 Adverse Drug Effects like Black Fungus Using CNN"**, embodies the report of our Project work carried out under the guidance of **Mr.Girish L, Assistant Professor, Department of CSE, SIET, Tumakuru** as partial fulfillment of requirements for the award of the degree in **Bachelor of Engineering in Computer Science & Engineering of Visvesvaraya Technological University, Belagavi**, during the academic year **2022-23**. The Project has been approved as it satisfies the academic requirements in respect to the Project work.

Place: Tumakuru

Date: 26/05/2023

Student Name & Signature

Bharathi H	**[1SV19CS016]**	Bharathi.H
Pramod R	**[1SV19CS052]**	Pramod.R
Rakshith B R	**[1SV19CS056]**	
Ravindra H V	**[1SV19CS057]**	

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ShriTEK Innovations
Skill & Career Development Centre, Room No. 3, Ground Floor,
SIET Campus, Sira Road, Tumakuru - 572 106. Karnataka.
: 0816-2211642
: www.shritek.com
: shritekinnovations@gmail.com

Date: 22/05/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. RAKSHITH B R** bearing USN **1SV19CS056** Student of **Shridevi Institute of Engineering & Technology** has successfully completed his Project Work titled "Detection and Prediction of COVID-19 Adverse Drug Effects like Black Fungus Using CNN".

We wish every success in his career.

For ShriTEK Innovations

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ShriTEK Innovations
Skill & Career Development Centre, Room No. 3, Ground Floor,
SIET Campus, Sira Road, Tumakuru - 572 106. Karnataka.
: 0816-2211642
: www.shritek.com
: shritekinnovations@gmail.com

Date: 22/05/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. RAVINDRA H V** bearing USN **1SV19CS057** Student of **Shridevi Institute of Engineering & Technology** has successfully completed his Project Work titled "Detection and Prediction of COVID-19 Adverse Drug Effects like Black Fungus Using CNN".

We wish every success in his career.

For ShriTEK Innovations

PRINCIPAL
SIET, TUMKUR

Authorized Signature

ShriTEK Innovations Tumkur

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Skill & Career Development Centre, Room No. 3, Ground Floor,
SIET Campus, Sira Road, Tumakuru - 572 106. Karnataka.
: 0816-2211642
: www.shritek.com
: shritekinnovations@gmail.com

Date: 22/05/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Ms. BHARATHI H** bearing USN **1SV19CS016** Student of **Shridevi Institute of Engineering & Technology** has successfully completed her Project Work titled "Detection and Prediction of COVID-19 Adverse Drug Effects like Black Fungus Using CNN".

We wish every success in her career.

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SIET. TUMKUR.

Authorized Signature

ShriTEK Innovations
Skill & Career Development Centre, Room No. 3, Ground Floor,
SIET Campus, Sira Road, Tumakuru - 572 106. Karnataka.
: 0816-2211642
: www.shritek.com
: shritekinnovations@gmail.com

Date: 22/05/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. PRAMOD R** bearing USN **1SV19CS052** Student of **Shridevi Institute of Engineering & Technology** has successfully completed his Project Work titled "Detection and Prediction of COVID-19 Adverse Drug Effects like Black Fungus Using CNN".

We wish every success in his career.

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ACKNOWLEDGEMENT

This Project will be incomplete without thanking the personalities responsible for this venture, which otherwise would not have become a reality.

We express our profound gratitude to **Dr. Narendra Viswanath,** Principal, S.I.E.T, for his moral support towards completing our Project work.

We would like to thank Head of Department **Dr. Basavesha D** Head, Department of CSE, SIET for providing all the support and facility.

We would like to thank my guide **Mr. Girish L, Assistant Professor,** Department of computer Science and Engineering, SIET for his help, sharing his technical expertise and timely advice.

We whole heartedly thank, **Mr. Suthan R,** Assistant Professor, Project coordinator, Department of Computer Science and Engineering, for the support.

We would like to express our sincere gratitude to all teaching and non-teaching faculty of the department of CSE for guiding us of this project by giving valuable suggestion and encouragement.

By,

PRINCIPAL
SIET. TUMKUR.

Bharathi H **[1SV19CS016]** .....

Pramod R **[1SV19CS052]** .....

Rakshith B R **[1SV19CS056]** .....

Ravindra H V **[1SV19CS057]** .....

Abstract

Mucormycosis, sometimes referred to as black fungus, is a fungal illness that can be dangerous. It has been documented to occur as a secondary infection in COVID-19 patients. By enabling immediate action and treatment, early identification and prediction of black fungus can greatly improve patient outcomes. In this article, we use the VGG-16 convolutional neural network (CNN) architecture to suggest a deep learning technique for the prediction of black fungus.

Using a sizable data-set of medical photos of probable black fungus cases, the VGG16 model was used, a widely used CNN architecture noted for its excellent accuracy in image classification tasks. A diversified data-set gathered from several healthcare organisations used to train and assess the proposed system.

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