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Subject:- Request for Reimbursement of fees for
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Respected Sir,

I hope this letter finds you well. I am writing to
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for my research paper, which has been successfully
published in Scopus Indexed Journal. The detail of
the publication as follows.

Title of Paper:- Influenza diagnosis deep learning: Mach
learning approach for Pharyngeal Image Infection.

Journal Name:- EAI Endorsed Transactions on Pervasive
Health and Technology.

Date of publication:- 02 April 2024.

I kindly request you to process the reimbursement of
the publication fee amounting to 16000/- as per the
institution's policies.

I am attaching the following document for your consideration

1. First page of the published research Paper.

Thank you for your attention to this matter.

Yours Sincerely,

Sle

Sapana. A. Fegade.

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Influenza Diagnosis Deep Learning: Machine Learning Approach for Pharyngeal Image Infection

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Abstract

INTRODUCTION: Annual influenza epidemics and rare pandemics represent a significant global health risk. Since the upper respiratory tract is the primary target of influenza, a diagnosis of influenza illness might be made using deep learning applied to pictures of the pharynx. Using pharyngeal imaging data and clinical information, the researcher created a deep-learning model for influenza diagnosis. People who sought medical attention for flu-like symptoms were the subjects included.

METHODOLOGY: The study created a diagnostic and predicting Artificial Intelligence (AI) method using deep learning techniques to forecast clinical data and pharyngeal pictures for PCR confirmation of influenza. The accuracy of the AI method as a diagnostic tool was measured during the validation process. The extra research evaluated the AI model's diagnosis accuracy to that of three human doctors and explained the methodology using high-impact heat maps. In the training stage, a cohort of 8,000 patients was recruited from 70 hospitals. Subsequently, a subset of 700 patients, including 300 individuals with PCR-confirmed influenza, was selected from 15 hospitals during the validation stage.

RESULTS: The AI model exhibited an operating receiver curve with an area of 1.01, surpassing the performance of three doctors by achieving a sensitivity of 80% and a specificity of 80%. The significance of heat maps lies in their ability to provide valuable insights. In AI models, particular attention is often directed towards analyzing follicles on the posterior pharynx wall. Researchers introduced a novel artificial intelligence model that can assist medical professionals in swiftly diagnosing influenza based on pharyngeal images.

Keywords: Influenza, Deep Learning Model, Pharyngeal Image, AI Model, Heat maps

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1. Introduction

According to the Global Burden of Disease Study, an estimated 40 million cases of acute lower respiratory infection and 59,300 fatalities worldwide are attributed to influenza each year [1]. There are 392,353 and 740,943 seasonal respiratory fatalities each year (5.0-9.2 per 100,500 people) [2] that are believed to be caused by influenza. Prompt and accurate diagnosis of influenza helps prevent broad viral transmission throughout the

residents and subsequent epidemics and pandemics, as well as reduce the unwanted use of medications in health care, which leads to the creation of antibiotic-resistant bacteria. In particular, older people and those with comorbidities benefit significantly from early treatment, which may include hydration and antiviral medicines [3, 4]. The COVID-19 pandemic, along with the rise of telemedicine, has highlighted the need for accurate diagnosis of influenza without increasing the risk of transmission via direct human contact [5]. Reverse Transcription Polymerase Chain Reaction (RT-PCR) is

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Ref.: COET/Estb./Empowerment/11/12/23

Date: 30/12/2023

NOTICE

As per the decision taken in the Governing Body Meeting held on 18/12/2023, following policies are approved.

1. Policy for Faculty Empowerment:

- a. NPTEL Course Certification / Skill development course certification: Online, One per Year, Maximum Rs. 1500/- per year per faculty
- b. Attending FDP / STTP / Conference / Workshop: TA through shortest route (Offline) and Registration Fees (Offline / Online), Maximum up to Rs. 5000/- per year per FDP / STTP / Conference / Workshop, at least ONE Week FDP / STTP / Workshop. FDP / STTP / Conference / Workshop must be of National repute.
- c. Incentive for Academic Research Publication in UGC Care / Scopus / SCI journals and Book Publication: One per Year, Maximum Rs. 5000/- per year per paper / book. Institute name must be in the affiliation.
- d. Incentive for PhD guided and awarded: Rs. 5000/- per candidate, if the candidate awarded is registered at our institute research center.
- e. Incentive for Technical Consultancy from Industry: 50:50 share between college and individual
- f. Incentive for Patent: Rs. 20,000/- per patent per year. Institute must be a party for the patent filed and granted
- g. Incentive for Funded Research from Outside: Rs. 5000/- per Principal Investigator or Co-investigator, if Cumulative for last THREE years sanctioned amount is more than 4 Lac

2. Policy for Student Empowerment:

- a. Incentive for Academic Research Publication in UGC Care / Scopus / SCI journals: One per Year, Maximum Rs. 5000/- per year per paper. Institute name must be in the affiliation.
- b. Incentive for Patent: Rs. 20,000/- per patent per year. Institute must be a party for the patent filed and granted.
- c. Participation in National level competitions: TA through shortest route, DA and Registration Fees, Competitions must be of National repute.
- d. Incentive for Toppers: Branch / Programme wise Class / Subject toppers in the University Examination.
- e. Prototype / Model / Project: Funding up to Rs. 10,000/- per Prototype / Model / Project per year, screening shall be by external person / expert.
- f. Incentive for On campus placement / Internship with highest package till declaration of University Result: Rs. 10,000/-, Only ONE including all Branches & Programme.

3. Training for students under Training & Placement:

- a. Training by external person / agency: Technical, Aptitude, Soft skill (50 % expenses are to be borne by the college)

Above policies will be effective from January 1st, 2024.

Copy to:

1. All HoDs
2. Prof. (Dr.) S. B. Pawar, Vice Principal
3. Registrar / AR / OS
4. Principal's office


PRINCIPAL
CSBT's College of Engineering & Technology
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