

A Project Report on
**COVID-19 DETECTION THROUGH TRANSFER LEARNING
USING MULTIMODAL IMAGING DATA**

Submitted In Partial Fulfilment of The Requirements for The Award of Degree Of
BACHELOR OF TECHNOLOGY

In
ELECTRONICS AND COMMUNICATION ENGINEERING

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DEPARTMENT OF

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AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY

**(NAAC Accredited, accredited by NBA, Approved by A.I.C.T.E, Permanently
Affiliated to J.N.T.U. KAKINADA)**

TAMARAM (P.O), MAKAVARAPALEM (M.O), NARSIPATNAM (R.D)
VISAKHAPATNAM DISTRICT-531113

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BONAFIDE CERTIFICATE

This is to certify that the project entitled "COVID-19 DETECTION THROUGH TRANSFER LEARNING USING MULTIMODAL IMAGING DATA" in partial fulfilment for the of degree of Bachelor of Technology in ELECTRONICS AND COMMUNICATION ENGINEERING, at AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, MAKAVARAPALEM, VISAKHAPATNAM is a Bonafide work carried out by, P. SYAMALA (18811A0422), D. JAYASREE (19815A0406), Y. JAYA PRAKASH (19815A0430), N. BHAGAVAN (18811A0419) under the guidance and supervision during 2018-2022.

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ABSTRACT

In recent days, the entire world suffers from a newly identified virus known as novel Coronavirus disease 2019 (COVID-19) which is originated in Wuhan, China in December 2019. According to the statistics of World Health Organization (WHO), approximately 125,781,957 cases are to be observed across globally among which 2,759,432 peoples are died and this count rapidly increases day-to-day. Due to the limited availability of test kits it is very difficult to diagnosis within the stipulated time which results in fast spreading between individuals. To address this issue an automatic computer-assisted diagnosis (CAD) approach is implemented using medical imaging modalities. X-ray and Computed Tomography (CT) are familiar modalities during the treatment planning of COVID-19 disease since they effectively identifies the active cells in the respiratory and lung tracts. Therefore, early detection of COVID-19 using X-ray and CT images may reduce spreading among human beings and also minimize the morality rate. To meet this criterion, in this article, we analyzed various kinds of pre-trained convolutional neural network (CNN) architectures by employing the concept of transfer learning.