

V. E. S. Institute of Technology, Chembur, Mumbai

VESIT-Aditya Jyot Eye Innovation Centre Project

Academic Year: 2019 -2020

Project Collaboration: Aditya Jyot Eye Innovation Centre (Aditya Jyot Foundation for Twinkling Little eyes)

VESIT-Aditya Jyot Eye Innovation Centre is the result of a collaborative relationship between two diverse fields namely medicine and engineering, for the purpose of medical research and technological innovation. In VESIT-Aditya Jyot Eye Innovation Centre, a platform is provided for development of student-based research projects on various fields of ophthalmology, to provide better and superior health care facilities which are technology driven, for the poor and needy.

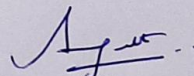
Project Title: Detection of Diabetic Retinopathy using fundus images

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Name of the Students: Sonali Gaitonde, Mradul Mundra, Anurag Sarang, Mayuresh Shelar

Description of the Project:

Diabetes Mellitus is a condition in which a human body is unable to produce enough insulin to regulate metabolism of sugar for storage in human cells. This results in high sugar levels in blood that may progressively damage the blood vessels in the retina and can result in vision impairment leading to diabetic Retinopathy. Early detection of Diabetic Retinopathy is critical for timely treatment to prevent loss of vision. The project propose a solution to address the problem of timely detection of Diabetic Retinopathy using a model developed using Artificial Intelligence. This model uses machine learning to identify Diabetic Retinopathy in the retina fundus images and classify them into various stages of progress of disease as Normal, Moderate and Proliferative Diabetic Retinopathy (PDR), with main focus being the Binary Classification, which will help doctors in the treatment of patients. Classification of the images into the different stages of eye disease was done using Convolutional Neural Networks with Transferred Learning. We are in the process of preparing research paper based on the project work.



(Mrs. Sangeetha Prasanna Ram)