Department of Electronics & Telecommunication Engineering



1.3.2 M.E. Project Documents



Department of Electronics & Telecommunication Engineering

Class: ME (EXTC) Sem 3 & 4

List of Dissertations with Title Session: 2021-22

Sr.	Name of		C -side	PRC Member-	PRC
No	Students	Project Title	Guide	1	Member-2
1	Supriya V, Kale	Lane and Curve Detection Using Machine Learning for Driving Assistance System.	Dr. R D. Ghongade	Prof. P N. Pusdekar	Prof. R.D. Sushir
2	Amar W. Gofane	Detection of Anemia from Image of the Anterior Conjunctiva of the Eye using Machine Learning.	Dr. R D. Ghongade	Prof. P N. Pusdekar	Prof. R. D. Sushir
3	Shweta A. Wankhade	Cloth Pattern Recognition for Visually Impaired People	Dr. G D. Dalvi	Prof. U.W. Hore	Dr. V B. Padole
4	Sneha. S. Makode	Sign Language Recognition Using DenseNet -Deep Learning Approach	Dr. G D. Dalvi	Prof. U.W. Hore	Dr. V B. Padole
5	Supriya S. Dudhe	ATM Crime Detection in Video Surveillance Using Machine Learning.	Prof. U.W. Hore	Dr. G D. Dalvi	Prof. A. P. Dhande
6	Rakshita. C Ingale	Analysis of Remote Sensing Satellite Images for Deforestation in Amravati, District, Maharashtra, India	Prof. P N. Pusdekar	Dr. R. D. Ghongade	Prof. G. D. Nagoshe

7	Shweta .J.	A Dual-Band MIMO	Prof. G D.	Prof. A. P.	Prof. P N.
	Meshram	Antenna Array for 5G	Nagoshe	Dhande	Pusdekar
		Mobile phone			
8	Ashwini K	Development of Face	Dr. V B. Padole	Dr. R D.	Prof. R. D
	Wankhade	Detection System Using		Ghongade	.Sushir
		Modelling.			
9	Vaishnavi S. Deshmukh	To design Method Using Deep Learning Techniques for Crop Classification to Improve Classification Accuracy	Prof. A. P. Dhande	Dr. V B. Padole	Prof. U.W. Hore
10	Shital.P.Bijwe	Customized haptic control for VRML object	Prof. R. D. Sushir	Prof. G.D.Nagoshe	Prof. A. P. Dhande

H.O.D. (EXTC Dept.) P.R.Pote (Patil) College of Engg. & Management Amravati.

Dr. R. D. Ghongade Head of the Department

2 Wolf P. R. Pote (P) College of Englyte (College of Englyte (College) (1.lanagemen Oode-110 AMRANIS *

"A DUAL-BAND MIMO ANTENNA ARRAY FOR 5G MOBILE PHONE"

Project Report

Submitted to

Sant Gadge Baba Amravati University

In partial fulfillment of the Requirement for the award of

Degree of

Master of Engineering

By

Meshram Shweta Jeewandas

Under the guidance of

Prof. G. D. Nagoshe



Department of Electronics and Telecommunication Engineering P. R. Pote Patil Education & Welfare Trust's Group of Institutions,

College of Engineering & Management.

Amravati - 444605 (M. S.)

2021-2022.

Department of Electronics and Telecommunication Engineering P. R. Pote Patil Education & Welfare Trust's Group of Institutions, College of Engineering & Management. Amravati – 444605 (M. S.) 2021 – 2022.





This is to certify that the project report entitled

"A Dual-Band MIMO Antenna Array for 5G Mobile Phone"

Submitted by

Meshram Shweta Jeewandas

In partial fulfillment of the requirements for the award of Degree of Master of Engineering in Electronics and Telecommunication Engineering by Sant Gadge Baba Amravati University & is a bonafied work carried out during the session 2021-2022.

Name Of Guide Prof. G. D. Nagoshe

Prof. R. D. Ghongade Head of the Department

Examiner

Dr. D. T. Ingole Principal

The fifth-generation (5G) communication technology can provide many advantages such as higher transmission rate and shorter latency over the current 4G system. And, it has been demonstrated that to achieve high transmission rate for the 5G operations below 6GHz, the multiple-input and multiple-output (MIMO) antenna system containing a relatively large number of antennas (e.g., 4-antenna) should be adopted. Recently, many 5G MIMO antenna systems have been proposed.

In this project report, a miniaturized Dual-band MIMO antenna is proposed for 5G mobile applications. The proposed dual band MIMO antenna has been designed on FR4 substrate with dielectric constant $\varepsilon_r = 4.4$ and 1.6mm thickness. The proposed Dual band MIMO antenna has very low mutual coupling of -40 dB at 3.7 GHz and -38 dB at 4.9 GHz and peak gain is around 4.2 dBi. The proposed dual band MIMO antenna observed good performance in terms of S-Parameters, radiation properties, mutual coupling, and bandwidth. The bandwidth of antenna is 60 MHz and 200 MHz at 3.7 GHz and 4.9 GHz respectively. The designed dual band MIMO antenna covers 5G bands 3.7 GHz (n78) and 4.7 GHz (n80). This proposed dual band MIMO antenna is suitable for 5G mobile communications.

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P. R. Potel (Potil) College of Englishers in Managemer

"Development of Face Detection System Using Skin Tone Colour Modelling"

Project Report

Submitted to

Sant Gadge Baba Amravati University, Amravati

In partial fulfillment of the Requirement for the award of

Degree of

Master of Engineering

By

Ashwini Kisanrao Wankhede

Under the guidance of Dr. V. B. Padole



Department of Electronics and Telecommunication Engineering P. R. Pote Patil Education & Welfare Trust's Group of Institutions, College of Engineering & Management.

Amravati - 444605 (M. S.)

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Department of Electronics and Telecommunication Engineering P. R. Pote Patil Education & Welfare Trust's Group of Institutions, College of Engineering & Management.

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CERTIFICATE

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Dr. V. B. Padole Guide

Dr. R. D. Ghongade Head of the Department

Examiner Dr. D. T. Ingole Principal

Nowadays digital worldwide the primary controversy is substantiated and identity. In substantiate and identity the eloquent position is face detection. In actual time software face detection turning into a hard challenge. Human face detection structures have gained a considerable interest at some point of final decade because of its sizeable packages in the several fields and advantages over preceding biometric strategies. There are many packages with respect to protection, sensitivity and secrecy. Face detection is the most important and primary step of popularity device. This challenge introduces a trendy method to stand detection systems using the pores and skin shade of a subject. This machine can hit upon a face no matter the ancient past of the image, which is a vital segment for face identity. The photographs used in this gadget are shade pictures which give extra records about. The pics than the gray pics provide. In face detection, the two respective classes are the "face detection" and the "non-face location". This new method to face detection is based mostly on colour tone values specially defined foe skin location detection inside the photograph body. This device first resizes the photograph; after which separates it into its thing R, G and B bands. These bands are converted into each different colour region this is YCbCr area after which into YCbCr region (the pores and skin coloration tone). The morphological manner is carried out at the presented photo to make it greater accurate. At ultimate, the projection face location is interested in the resource of this device to decide the face location.

Keywords: MATLAB, Feature Extraction, Skin Detection, RGB Model.





"SIGN LANGUAGE RECOGNITION USING DENSENET-DEEP LEARNING APPROACH"

Project Report

Submitted to

Sant Gadge Baba Amravati University

In partial fulfillment of the Requirement for the award of

Degree of

Master of Engineering

By

Ms. Sneha S. Makode

Under the guidance of

Dr. G. D. Dalvi



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2021-2022

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Dr. G. D. Dalvi

Guide

Prof. R. D. Ghongade Head of the Department

Dr. D. T. Ingole Principal

Sign language is used by deaf and hard hearing people to exchange information between their own community and with other people. Computer recognition of sign language deals from sign gesture acquisition and continues till text/speech generation. Sign gestures can be classified as static and dynamic. However static gesture recognition is simpler than dynamic gesture recognition but both recognition systems are important to the human community. The sign language recognition steps are described in this survey. The data acquisition, data preprocessing and transformation, feature extraction, classification and results obtained will be examined. Some future directions for research in this area also suggested. In this project we will used densenet with transfer learning.





"ATM Crime Detection in Video Surveillance Using Machine Learning".

Project Report

Submitted to

Sant Gadge Baba Amravati, University

In partial fulfillment of the Requirement for the award of

Degree of

Master of Engineering

By

Ms .Supriya Sanjay Dudhe

Under the guidance of

Prof. U.W. Hore



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2021-2022.

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"ATM Crime Detection in Video surveillance Using Machine Learning".

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Prof. U.W.Hore

Guide

Dr. R .D. Ghongade

Head of the Department

Dr. P.S. Choudlang Examiner

Dr. D.T. Ingole Principal

ATM Crime Detection in Video Surveillance Using Machine Learning.

ATM(Automated Teller Machine) security is very important to people nowadays. ATM transactions are very simple and easy, but the machines and the areas around them can be vulnerable to theft and need to be guarded. Using real-time video surveillance via hidden camera will make ATM transactions much safer. Robberies occur pretty much in our everyday lives. The proposed system deals with the development of a video surveillance framework in ATM machines and detects any form of possible criminal activity and therefore brings out a solution to current problem with the existing systems. Machine learning techniques can be used to achieve impressive results in the detection of the activities. The proposed system may make effective use of an potent algorithms which includes methodologies such as detecting objects such as weapons and eventually ending up identifying the action required to prevent fraud activities. The goal of proposed work is to build a system using Camera to initiate the alert to concerned authorities to take necessary action.

"Analysis of Remote Sensing Satellite Images for Deforestation in Amaravti, District, Maharashtra, India"

Project Report

Submitted to

Sant Gadge Baba Amravati University

In partial fulfillment of the Requirement for the award of

Degree of

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By

Ms. Rakshita C. Ingale

Under the guidance of

Prof. P. N. Pusdekar



Department of Electronics and Telecommunication Engineering P. R. Pote Patil Education & Welfare Trust's Group of Institutions, College of Engineering & Management. Amravati – 444605 (M. S.) 2021-2022. Department of Electronics and Telecommunication Engineering P. R. Pote Patil Education & Welfare Trust's Group of Institutions, College of Engineering & Management. Amravati – 444605 (M. S.) 2021 – 2022.



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"Analysis of Remote Sensing Satellite Images for Deforestation in Amaravti, District, Maharashtra, India"

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Prof.P.N.Pusdekar

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Analysis of Remote Sensing Satellite Images for Deforestation in Amravati, District, Maharashtra, India

The availability of remote-sensing multisource data from optical-based satellite sensors has created new opportunities and challenges for forest monitoring in the Amazon Biome. In particular, change-detection analysis has emerged in recent decades to monitor forest-change dynamics, supporting some Brazilian governmental initiatives such as PRODES and DETER projects for biodiversity preservation in threatened areas. In recent years fully convolutional network architectures have witnessed numerous proposals adapted for the change-detection task. This paper comprehensively explores state-of-the-art fully convolutional networks such as U-Net, ResU-Net, SegNet, FC-DenseNet, and two DeepLabv3+ variants on monitoring deforestation in the Brazilian Amazon. The networks' performance is evaluated experimentally in terms of Precision, Recall, F1-score, and computational load using satellite images with different spatial and spectral resolution: Landsat-8 and Sentinel-2. We also include the results of an unprecedented auditing process performed by senior specialists to visually evaluate each deforestation polygon derived from the network with the highest accuracy results for both satellites. This assessment allowed estimation of the accuracy of these networks simulating a process "in nature" and faithful to the PRODES methodology. We conclude that the high resolution of Sentinel-2 images improves the segmentation of deforestation polygons both quantitatively (in terms of F1-score) and qualitatively. Moreover, the study also points to the potential of the operational use of Deep Learning (DL) mapping as products to be consumed in PRODES.

Keywords: Amazon biome; change detection; deep learning; fully convolutional neural networks; remote sensing; semantic segmentation.