



- Research & Development Program(RDP)
- Final Year Academic Project(FAP) In Software And Embedded Technologies
- Application Development Program(ADP)

## **PROJECT TITLES GUIDE** **2020 - 2021**

A hand holding a tablet displaying a digital interface with various icons and a globe.

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**SPIRO PRIME TECH SERVICES. #78, USMAN ROAD, T. NAGAR, CHENNAI – 600 017.**

**Website: [www.spiroprojects.com](http://www.spiroprojects.com). Contact – 9791 044 044 / 9962 067 067.**

**Mail Id: [spioprojects@gmail.com](mailto:spioprojects@gmail.com) / [spirobranch@gmail.com](mailto:spirobranch@gmail.com)**

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<b>EMBEDDED SYSTEM</b>				
<b>ARDUINO</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
1.	ITAUR01	Two-way Authentication Secured Voting System	To develop a secure voting system with RFID and Fingerprint module and enhance the voting machine with GSM acknowledgement	<a href="#"><u>CLICK HERE</u></a>
2.	ITAUR02	Smart Pill Box for Visually Challenged People	The time based smart pill box helps the blind person to take medicine on time by using the Bluetooth voice command. The security of the pill box is improved by biometric authentication.	<a href="#"><u>CLICK HERE</u></a>
3.	ITAUR03	Object Detection for Blind People using MATLAB	This system helps the blind person easier to navigate and find the object using camera and hear the audio.	<a href="#"><u>CLICK HERE</u></a>
4.	ITAUR04	Enhancement of ATM Transactions by Implementing Finger Print Recognition	The ATM transactions are improved by implementing authentication and OTP based password system	<a href="#"><u>CLICK HERE</u></a>
5.	ITAUR05	Smart Helmet System for Accident Prevention	The smart helmet system helps the user needs to wear the helmet to ignite the engine. In case of accident occurred the system gives alert to the care taker or ambulance.	<a href="#"><u>CLICK HERE</u></a>
6.	ITAUR06	Voice and Hand Gesture Based Home Automation for Physically Challenged	This method provides hand gesture and voice assistance to physically challenged person controls the home appliances and control the wheel chair	<a href="#"><u>CLICK HERE</u></a>
7.	ITAUR07	Bus Indication for Visually Challenged People using RFID	The bus indication helps the blind person to hear the upcoming bus details and check the availability of seats in bus.	<a href="#"><u>CLICK HERE</u></a>
8.	ITAUR08	Implementation of Smart Wireless Pedestrian Crossing Control System	This method helps the pedestrian crossing by controlling the traffic signals for required time period	<a href="#"><u>CLICK HERE</u></a>
9.	ITAUR09	Safety and Health Monitoring Helmet for Construction Workers	This helmet improves the safety of the workers by monitoring their parameters surroundings and update the data to base station	<a href="#"><u>CLICK HERE</u></a>
10.	ITAUR10	Efficient Power Saver for Street light using Solar Power	To save an energy by using solar powered street light and sensors to control light brightness based on weather	<a href="#"><u>CLICK HERE</u></a>
11.	ITAUR11	Smart Assistance for Dumb and Deaf	The smart assistance helps the dumb and deaf by implementing audio and gloves based system and to communicate to other persons easily.	<a href="#"><u>CLICK HERE</u></a>
12.	ITAUR12	Building a Fish Vegetable Coexistence System Based on a Wireless Sensor Network	This module is used in fish tank. Nutrients are observed and supplied to water plants by automated system.	<a href="#"><u>CLICK HERE</u></a>
13.	ITAUR13	Designing of Smart and Secure Single ATM Card for Multiple bank Accounts	To develop an ATM machine this accepts single ATM card for accessing multiple bank account. The ATM card is enhanced by RFID based card.	<a href="#"><u>CLICK HERE</u></a>

14.	ITAUR14	Smart Electricity Meter Data Intelligence for Future Energy System	The smart energy meter is designed to monitor the energy consumed and the prepaid meter system is implemented.	<a href="#">CLICK HERE</a>
15.	ITAUR15	Solar Panel Power Monitoring System using Lo-Ra	The Solar power plant is monitored using LORA module for longer range data communication.	<a href="#">CLICK HERE</a>
<b>INTERNET OF THINGS (IOT)</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
16.	ITIOT01	Agricultural Field Monitoring System Based on IOT	To obtain field monitoring for agricultural land to safeguard the plants using IOT	<a href="#">CLICK HERE</a>
17.	ITIOT02	Home Automation and Security using IOT	To perform automation at home with security using sensor and IOT	<a href="#">CLICK HERE</a>
18.	ITIOT03	Sensor Based Garbage Segregation and Monitoring System using IOT	Waste segregation is important in day-to-day life to avoid pollution using sensor and IOT	<a href="#">CLICK HERE</a>
19.	ITIOT04	Women Safety Smart Device with Location Sharing using IOT	To give protection for women using safety embedded device and to prevent them from the bad incidents by attacking the predator using electric shock.	<a href="#">CLICK HERE</a>
20.	ITIOT05	Theft Vehicle Number Plate Tracking using MATLAB & Alert System in IOT	To identify the theft vehicle at the toll gate by number plate recognition using image processing and updated in the IOT.	<a href="#">CLICK HERE</a>
21.	ITIOT06	IOT Based Emergency and Theft Vehicle Identification in Traffic System using RFID	To avoid traffic problems for emergency vehicle and also theft vehicle identification at traffic junction using radio frequency identification technology.	<a href="#">CLICK HERE</a>
22.	ITIOT07	IOT Based Coal Mine Safety Monitoring and Controlling	To ensure safety for underground workers in coal mine area using sensor and IOT.	<a href="#">CLICK HERE</a>
23.	ITIOT08	Supermarket Shopping Cart System Using IOT And RFID Technology	To avoid queue in supermarket shopping cart using RFID, products read and amount for purchase made easy.	<a href="#">CLICK HERE</a>
24.	ITIOT09	Smart Gardening Automation using IOT	To maintain garden at home using sensor and IOT by automation method	<a href="#">CLICK HERE</a>
25.	ITIOT10	Automobiles Based Black-Box System using IOT	To obtain the reason for accident using sensor installed in the vehicle.	<a href="#">CLICK HERE</a>
26.	ITIOT11	Automatic Railway Gate Crossing Control and Track Crack Detection System using IOT	Gate crossing for vehicle in railway track made automatic using sensor and crack of the track identified with location.	<a href="#">CLICK HERE</a>
27.	ITIOT12	Smart Infant Incubator using IOT	Infant monitoring to check health status of the baby using IOT.	<a href="#">CLICK HERE</a>
28.	ITIOT13	IOT Based Automated Fish-Feeder	Fish feeding made automatic for pet lovers at home and can feed food at time.	<a href="#">CLICK HERE</a>
29.	ITIOT14	Smart Car Parking System using IOT	Parking slot identification for car parking using IOT in malls, hospital etc.,	<a href="#">CLICK HERE</a>
30.	ITIOT15	Flood Early Detection and Alert System using IOT	To protect the people from flood by alerting using IOT.	<a href="#">CLICK HERE</a>

<b>LIGHT FIDELITY</b>				
<b>S.N</b>	<b>P.CODE</b>	<b>PROJECT TITLE</b>	<b>DESCRIPTION</b>	<b>ONLINE EXPLANATION</b>
31.	ITLI01	Room Identification Guidance for Blind People in the House using Li-Fi	To help the visually challenged people to navigate In indoor localization using LI-FI.	<a href="#"><u>CLICK HERE</u></a>
32.	ITLI02	Li-Fi Based Communication System Between Vehicles to Avoid Accidents on Road	To prevent the road accident by enabling the communication between vehicles using Light fidelity.	<a href="#"><u>CLICK HERE</u></a>
33.	ITLI03	Isolated Patient Health Monitoring for COVID treatment using Li-Fi	To reduce the spreading rate by enabling LI-FI based communication between isolated patient and hospital staff	<a href="#"><u>CLICK HERE</u></a>
34.	ITLI04	Li-Fi Based Home Automation	To control and monitor the home appliances by using LI-FI with the help of IOT	<a href="#"><u>CLICK HERE</u></a>
35.	ITLI05	Navigation System for Vehicles in Complex Road Intersection	To navigate people in right way in a complex road setup in night time. Example kathipara flyover in Chennai	<a href="#"><u>CLICK HERE</u></a>
36.	ITLI06	Implementation of Li-Fi Technology in Supermarkets	To avoid waiting time in the billing counter we are transmitting the purchased item list to the counter using LI-FI	<a href="#"><u>CLICK HERE</u></a>
37.	ITLI07	Machine to Machine (PC-PC) Data Transmission Through Li-Fi	To enable communication between devices with the help of light fidelity	<a href="#"><u>CLICK HERE</u></a>
38.	ITLI08	Bus Arrival Information for Passengers in Bus Stop Through Li-Fi	To intimate about arrival time of the busses and other busses information that are going through the terminal by using LI-FI	<a href="#"><u>CLICK HERE</u></a>
39.	ITLI09	Audio Transmission using Li-Fi Technology	Audio signal transmission from transmitter to receiver using LI-FI	<a href="#"><u>CLICK HERE</u></a>
40.	ITLI10	Real Time Text Transmission Implemented for Underwater Wireless Communication using Li-Fi	We are sending a LI-FI signal through water medium to communicate.	<a href="#"><u>CLICK HERE</u></a>
<b>RSSI</b>				
<b>S.N</b>	<b>P.CODE</b>	<b>PROJECT TITLE</b>	<b>DESCRIPTION</b>	<b>ONLINE EXPLANATION</b>
41.	ITRSSI01	COVID Patient Escape Alert System from Isolation Ward using RSSI	This project aim is to prevent COVID spread and escape patient is enhanced	<a href="#"><u>CLICK HERE</u></a>
42.	ITRSSI02	RSSI based School Zone Alert System for Vehicles to Avoid Accidents	This paper discusses the concept of a smart children's safety system in school zone for little children.	<a href="#"><u>CLICK HERE</u></a>
43.	ITRSSI03	Sea-way Border Alert System for the Person in the Boat by Implementing RSSI	This system to border identification for boat and alert them.	<a href="#"><u>CLICK HERE</u></a>
44.	ITRSSI04	Leaving the Space for Emergency Vehicle by using RSSI.	Aim for making free space on the road for emergency vehicle. (RSSI).	<a href="#"><u>CLICK HERE</u></a>

45.	ITRSSI05	Prisoner Escape Alert System to the Warden Inside the Prison	To preventing prisoner escape inside the jail using RSSI signal.	<a href="#">CLICK HERE</a>
46.	ITRSSI06	Child Missing Alert System for Parent in Public Places by RSSI	The purpose of this device is to help parents locate their children with ease.	<a href="#">CLICK HERE</a>
47.	ITRSSI07	Boundary Crossing Intimation to Soldier from Camp by using RSSI	To intimate about the soldier's status by using RSSI technology.	<a href="#">CLICK HERE</a>
48.	ITRSSI08	Implementation of RSSI for Mentally Unstable Person in Particular Parameter	To monitor the mentally unstable person by using RSSI	<a href="#">CLICK HERE</a>
49.	ITRSSI09	Sand Theft Prevention by Implementing RSSI	Sand theft prevention in time by using signal strength	<a href="#">CLICK HERE</a>
50.	ITRSSI10	Smart Way to Catch Theft Vehicle and Theft Person using RSSI	By enabling RSSI we can prevent the vehicle being stolen and we can catch the person who is attempting to steal the vehicle.	<a href="#">CLICK HERE</a>
51.	ITRSSI11	Personal Assistant for Visually Impaired People in Malls using RSSI	By enabling RSSI we can prevent the vehicle being stolen and we can catch the person who is attempting to steal the vehicle.	<a href="#">CLICK HERE</a>
52.	ITRSSI12	A System for Detection and Tracking of Human Movements using RSSI	Human movement tracking in a restricted places by RSSI	<a href="#">CLICK HERE</a>

### ROBOTICS

S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
53.	ITROB01	Floor Cleaning Robot using Bluetooth Technology	To obtain floor cleaning robot using wireless communication to avoid improper cleaning of the floor.	<a href="#">CLICK HERE</a>
54.	ITROB02	Land-Mine Detection Robot using Wireless Technology	To avoid death of soldier in war use land mine detection robot to safe the soldier from death using wireless communication.	<a href="#">CLICK HERE</a>
55.	ITROB03	Autonomous Vehicle with the Aid of Computer Vision	To provide web-controlled vehicle access in a model for future.	<a href="#">CLICK HERE</a>
56.	ITROB04	Farm Irrigation Robot using Image processing	To implement the irrigation system for agricultural land using robot with the help of wireless communication.	<a href="#">CLICK HERE</a>
57.	ITROB05	Smart Solar Grass Cutter Robot	To obtain the solar based grass cutter in the field using wireless communication.	<a href="#">CLICK HERE</a>
58.	ITROB06	Medical Assist Robot for Isolated Ward Patient in Hospital	To give an isolated patient's food and medicine on time to maintain the Quarantine.	<a href="#">CLICK HERE</a>
59.	ITROB07	Fire Fighting Robot	We are using sensors to find the fire and to handle the situation by pumping water.	<a href="#">CLICK HERE</a>
60.	ITROB08	MEMS Based Gesture Control Robot using Wireless Communication	We are controlling a robot by using hand gesture by using wireless communication.	<a href="#">CLICK HERE</a>
61.	ITROB09	Autonomous Vehicle in Obstacle Free Environment	We are using sensors to detect the object and it will act upon the sensors input data	<a href="#">CLICK HERE</a>

62.	ITROB10	Automated Lawn Mower using Solar Panel	We are using a solar power-based grass cutter and controlling it by wireless communication device.	<a href="#">CLICK HERE</a>
<b>GSM &amp; GPS</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
63.	ITGP01	Patient Health Monitoring System using GPS & GSM	This device is used for to monitoring patient health ever and alert system.	<a href="#">CLICK HERE</a>
64.	ITGP02	Theft Alert of Vehicle with Fingerprint Verification using GSM & GPS	Aim is enhanced security for vehicles and preventing theft.	<a href="#">CLICK HERE</a>
65.	ITGP03	Disaster Management and Early Warning System	The ultimate aim of the project is to spread the disaster warning information quickly through GSM	<a href="#">CLICK HERE</a>
66.	ITGP04	ATM Security using GSM & GPS	To enhanced security of ATM machines for customers and peoples.	<a href="#">CLICK HERE</a>
67.	ITGP05	Weather Monitoring System using GPS & GSM	To know about status of environments used real time data and communicate via GSM&GPS.	<a href="#">CLICK HERE</a>
68.	ITGP06	Gas Leakage and Fire Detection using GPS & GSM	Preventing gas and fire leakage for industrial ,home appliances and etc.	<a href="#">CLICK HERE</a>
69.	ITGP07	Obstacle Detection and Emergency Alert for Visually Challenged People by using GSM & GPS	This project aim is smart assist with blind people quickly through GSM.	<a href="#">CLICK HERE</a>
70.	ITGP08	Alert Message to Parent about Child Arrival & Depart from School by using GSM	This system used for child safety between school and home enhancement method.	<a href="#">CLICK HERE</a>
71.	ITGP09	Sleep Detection with Driver Assistance Security for Accident Avoidance based System	This system mainly used to detect the sleep and alert the driver, So that we can reduce the maximum road accidents.	<a href="#">CLICK HERE</a>
72.	ITGP10	Violence Alert System to Police using GSM & GPS with the help of MATLAB.	Detection of violence and preventing violence through GSM with location.	<a href="#">CLICK HERE</a>
<b>BIOMEDICAL</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
73.	ITBIO01	Detection of White Blood Cell Cancer using Image Processing and Updated in IOT	To obtain the classification of White Blood Cell Cancer and also monitor health status using image processing and IOT.	<a href="#">CLICK HERE</a>
74.	ITBIO02	Diagnosis of Skin Cancer using Arduino and Image Processing	To check the Skin cancer is confirmed or not for the person using image processing.	<a href="#">CLICK HERE</a>
75.	ITBIO03	Thyroid Detection System using Image Processing and Arduino	To obtain the thyroid status for the patient is normal and abnormal.	<a href="#">CLICK HERE</a>
76.	ITBIO04	Glaucoma Detection using Fundus Images of the Eye	To check the eye disease for the patient is normal or abnormal using images.	<a href="#">CLICK HERE</a>

77.	ITBIO05	Supervised Saliency Map Driven Segmentation of Lesions in Dermoscopic Images	To check the skin cancer affected for the person is normal and abnormal	<a href="#">CLICK HERE</a>
78.	ITBIO06	Retinal Layer Abnormality Detection in OCT Images	To check the retinal layer of the eye is normal or abnormal using images.	<a href="#">CLICK HERE</a>
79.	ITBIO07	Plasmodium Falciparum Detection in Microscopic Blood Cell Images to Avoid Sudden Death of People from Malaria	To obtain the classification of malaria disease and also monitor health status using image processing and IOT.	<a href="#">CLICK HERE</a>
80.	ITBIO08	Medical Smart Card System for Patient Record Management	To maintain patient details using RFID technology for patient record management.	<a href="#">CLICK HERE</a>
81.	ITBIO09	Patient Health Care Monitoring and Tracking System	To maintain patient health monitoring in real time using sensors.	<a href="#">CLICK HERE</a>
82.	ITBIO10	Smart Tiles for Elder Tracking and Fall Detection System	To check the fall detection of the elder people using sensor and IOT.	<a href="#">CLICK HERE</a>

### WIRELESS

S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
83.	ITWI01	Bus Arrival Information System for Passenger	To know about status of bus and intimation for passengers.	<a href="#">CLICK HERE</a>
84.	ITWI02	An Improved Version of Student Attendance Management System based on RFID	Enhanced technology for student attendance on COVID time.	<a href="#">CLICK HERE</a>
85.	ITWI03	Smart Guide Stick for Blind Using Zigbee	Aim is obstacle detection and alerts them through wireless communication.	<a href="#">CLICK HERE</a>
86.	ITWI04	Air Pollution Monitoring System using Wireless Network.	To know about air pollution level and alert system for environment safety and etc.	<a href="#">CLICK HERE</a>
87.	ITWI05	Remotely Monitoring Health of The Solar Power System Using Arduino	This device used to monitor the current and voltage level from the power source of solar panel for lossless.	<a href="#">CLICK HERE</a>
88.	ITWI06	Zigbee Based Agricultural Monitoring System using Wireless Sensor Network	Aim is to know about plants and weather status monitoring through (WN).	<a href="#">CLICK HERE</a>
89.	ITWI07	Early Flood Detection and Monitoring System Based on Wireless Sensor Network	The aim of the project is to flood warning information quickly through wireless networks.	<a href="#">CLICK HERE</a>

### MECHANISM

S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
90.	ITEM01	Direct Sensing Two-Axis Solar Tracking System	The two axis solar tracking system is implemented to obtain a maximum light energy from the sun.	<a href="#">CLICK HERE</a>



91.	ITEM02	Smart Garbage Monitoring System for Waste Management	The smart garbage mechanism is used to separate the degradable and non-degradable object and also update the states of the garbage to cloud for cleaning the garbage.	<a href="#">CLICK HERE</a>
92.	ITEM03	Intelligent Wheelchair for Handicapped Persons	The intelligent wheel chair helps the handicapped person to travel themselves without the help of other persons using automated control system.	<a href="#">CLICK HERE</a>
93.	ITEM04	Man-Machine Interface for Objects control using MEMS	This method helps the replacement of human work by implementing robotic hand to pick and place an object	<a href="#">CLICK HERE</a>
94.	ITEM05	RFID based Book Identification System in Libraries	This system provides identification of books based on RFID tag in library.	<a href="#">CLICK HERE</a>
95.	ITEM06	Automatic Work Piece Counting using Arduino	This method helps to count the number of items in industrial purpose.	<a href="#">CLICK HERE</a>
96.	ITEM07	Poor Quality Rejection using Automations	This method provides identification of poor quality objects in industrial automation.	<a href="#">CLICK HERE</a>

<b>MATLAB-IMAGE PROCESSING</b>				
<b>MEDICAL IMAGE PROCESSING</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
1.	ITIMP01	Aidan: An Attention-Guided Dual-Pathnetwork For Pediatric echocardiography Segmentation	Analysis of medical videos from the intracardiac masses in echocardiograms for detection and localization of abnormalities like tumor in brain.	<a href="#">CLICK HERE</a>
2.	ITIMP02	Automated detection and classification of oral lesions using deep learning for early detection of oral cancer	Oral cancer appears as a growth or sore in the mouth that does not go away. This project can predict the oral cancer using image processing.	<a href="#">CLICK HERE</a>
3.	ITIMP03	Automatic detection of diabetic eye disease through deep learning using fundus images: a survey	Recognize eye disease system should include simplicity, clinical nature (i.e., easily carried out by any physician equipped with ordinary noninvasive techniques).	<a href="#">CLICK HERE</a>
4.	ITIMP04	A novel deep learning pipeline for retinal vessel detection in fluorescein angiography	Classification of the eye cardiac and vascular disease may have clinical use in the description of the present eye state, in the assessment of treatment results, and in the choice of therapy.	<a href="#">CLICK HERE</a>
5.	ITIMP05	Part mitosis: a partially supervised deep learning framework for mitosis	Breast cancer is a disease in which cells in the breast grow out of control.	<a href="#">CLICK HERE</a>

		detection in breast cancer histopathology images	This project can predict the breast cancer using image processing.	
6.	ITIMP06	Alzheimer's diseases detection by using deep learning algorithms: a mini-review	Alzheimer's disease is an irreversible, progressive brain disorder that slowly destroys memory and thinking skills. This project aims to detect the Alzheimer's disease using image processing.	<a href="#">CLICK HERE</a>
7.	ITIMP07	Sisc: end-to-end interpretable discovery radiomics-driven lung cancer prediction via stacked interpretable sequencing cells	Lung cancer is the uncontrolled growth of abnormal cells in one or both lungs. This project aim to detect the lung cancer using image processing.	<a href="#">CLICK HERE</a>
8.	ITIMP08	Morphological active contour without edge- based model for real-time and non-rigid uterine fibroid tracking in hifu treatment	Uterine fibroids also referred as leiomyoma's are the most common tumors persist within the wall of the female genital tract. This abnormality is predominant among woman of childbearing with the use of image processing to identify the risk.	<a href="#">CLICK HERE</a>
9.	ITIMP09	Optimized edge detection technique for brain tumor detection in mr images	A brain tumor is a mass or growth of abnormal cells in your brain. This project aim to classify the brain tumors using image processing.	<a href="#">CLICK HERE</a>
10.	ITIMP10	Comparative analysis of segmentation techniques for progressive evaluation and risk identification of diabetic foot ulcers	Diabetes mellitus is a chronic disorder so much impacts human body due to damaged pancreas producing inadequate aggregate of inslin. In this project to analysis diabetic foot ulcers with he help of image processing.	<a href="#">CLICK HERE</a>
11.	ITIMP11	Computer-assisted acute lymphoblastic leukemia detection and diagnosis	Leukemia, a type of cancer found in your blood and bone marrow, is caused by the rapid production of abnormal white blood cells. This project aim to detect the white blood cancer using image processing.	<a href="#">CLICK HERE</a>
12.	ITIMP12	Cervical histopathology image classification using multilayer hidden conditional random fields and weakly supervised learning	This study aimed to propose a deep transfer learning framework for cervical histopathological image analysis by using convolutional neural networks (CNNs).	<a href="#">CLICK HERE</a>
13.	ITIMP13	classification of melanoma and nevus in digital images for diagnosis of skin cancer	Melanoma is a type of skin cancer that develops when melanocytes start to grow out of control. This project aims to detect the melanoma using image processing.	<a href="#">CLICK HERE</a>
<b>IMAGE ENHANCEMENT</b>				
<b>S.N</b>	<b>P.CODE</b>	<b>PROJECT TITLE</b>	<b>DESCRIPTION</b>	<b>ONLINE EXPLANATION</b>
14.	ITIMP14	Convective Clouds Extraction From Himawari-8 Satellite Images Based On Double-Stream Fully Convolutional Networks	Our proposed approach is the first using HDR radiance maps for cloud segmentation and achieves very good results and also classifies the cloud types by using KNN classification.	<a href="#">CLICK HERE</a>

15.	ITIMP15	A Fast Single-Image Dehazing Algorithm Based On Dark Channel Prior And Rayleigh Scattering	Image enhancement is the procedure of improving the quality and the information content of original data before processing. We propose a deep CNN model that embodies regional detection on low light image.	<a href="#">CLICK HERE</a>
16.	ITIMP16	Fast Single Image Defogging With Robust Sky Detection	The phrase single image defogging is used to describe any method that removes atmospheric scattering (e.g., fog) from a single image. This project aim to remove fog from an image using image processing.	<a href="#">CLICK HERE</a>
17.	ITIMP17	An adaptive detail qualization for Infrared image enhancement based on multi-scale convolution	Underwater image processing has been used in a good kind of fields, like underwater microscopic detection Therefore, the enhancement can be divided into 2 methods, underwater image de-hazing and underexposed image color restoration. Simple dcp approx. dcp.	<a href="#">CLICK HERE</a>
18.	ITIMP18	Detail-preserving underexposed image enhancement via optimal weighted multi- exposure fusion	Underexposed image enhancement aims at revealing hidden details that are barely noticeable in underexposed images due to low light conditions.	<a href="#">CLICK HERE</a>
19.	ITIMP19	A novel framework for classifying leather surface defects based on a parameter optimized residual network	Defects that appear in the finished leather are the result of damage to the raw skin, poor storage or improper processing during manufacturing. This project aim to detect leather surface defects using image processing.	<a href="#">CLICK HERE</a>
20.	ITIMP20	A face spoofing detection method based on domain adaptation and lossless size adaptation	Facial spoof attack is a process in which a fraudulent user can subvert or attack a face recognition system. This project aims to detect face spoofing using image processing.	<a href="#">CLICK HERE</a>
21.	ITIMP21	Human edge segmentation from 2d images by its histogram of oriented gradient and edge Matching algorithms	Human detection is the task of locating all instances of human beings present in an image. This project aims to detect human detection using image processing.	<a href="#">CLICK HERE</a>
22.	ITIMP22	Toward resolution-invariant person re identification via projective dictionary learning	Matching people across multiple camera views known as person re-identification, is a challenging problem due to the change in visual appearance caused by varying lighting conditions.	<a href="#">CLICK HERE</a>
23.	ITIMP23	Action-stage emphasized spatio-temporal vlad for video action recognition	Automated human action recognition has the potential to play an important role in public security, for example, in relation to the multi-view surveillance videos taken in public places, such as train stations or airports. This paper represents practical, reliable, and generic systems for multi-view video-based human action recognition, a CNN (Convolutional Neural Network).	<a href="#">CLICK HERE</a>

<b>IMAGE SEGMENTATION</b>				
<b>S.N</b>	<b>P.CODE</b>	<b>PROJECT TITLE</b>	<b>DESCRIPTION</b>	<b>ONLINE EXPLANATION</b>
24.	ITIMP24	Multiscale and adversarial learning-based semi-supervised semantic segmentation approach for crack detection in concrete Structures	A concrete crack is an incomplete separation of either concrete or masonry into two or more parts. This project aims to detect concrete crack using image processing.	<a href="#"><u>CLICK HERE</u></a>
25.	ITIMP25	Patch-driven tongue image segmentation using sparse representation	Diabetes is a chronic disease and a major public health challenge worldwide. Due to lack of awareness among the people on eating habits. This motivates researchers to develop a medical system with the help of tongue images	<a href="#"><u>CLICK HERE</u></a>
26.	ITIMP26	Context union edge network for semantic segmentation of small-scale objects in very high-resolution remote sensing images	Our technique is Ensemble clustering with subspace discriminant algorithm for classification of satellite data into water, Agriculture, Barren land, Green Land. The Proposed method of self-organising map clustering and ensemble classifier.	<a href="#"><u>CLICK HERE</u></a>
27.	ITIMP27	Data augmentation for improving proliferative diabetic retinopathy detection in eye fundus Images	We propose a new CNN layer creation and training-based method to detect the diseases. The adaptive thresholding algorithm takes original fundus images and their corresponding.	<a href="#"><u>CLICK HERE</u></a>
28.	ITIMP28	Glaucoma detection using fundus images of the eye	Glaucoma is an ocular disorder caused due to increased fluid pressure in the optic nerve. It damages the optic nerve subsequently causes loss of vision. This project aims to detect glaucoma using image processing.	<a href="#"><u>CLICK HERE</u></a>
29.	ITIMP29	An optimized method for segmentation and classification of apple diseases based on strong correlation and genetic algorithm based Feature selection	A plant becomes diseased when it is continuously disturbed by some causal agent. This project aims to detect plant diseases using image processing.	<a href="#"><u>CLICK HERE</u></a>
30.	ITIMP30	Investigation of dairy cow performance in different udder health groups defined based on a combination of somatic cell count and differential somatic cell count.	Milk somatic cells are index for estimating mammary health and milk quality. This project aims to count somatic cells using image processing.	<a href="#"><u>CLICK HERE</u></a>
31.	ITIMP31	Focus first: coarse-to-fine traffic sign detection with stepwise learning	Traffic-sign recognition (TSR) is a technology by which a vehicle is able to recognize the traffic signs. This project aims to detect traffic signs using image processing.	<a href="#"><u>CLICK HERE</u></a>
32.	ITIMP32	Apple bruise grading using piecewise nonlinear curve fitting for hyperspectral imaging data	This project aims to detect fruit diseases in hyper spectral images using image processing.	<a href="#"><u>CLICK HERE</u></a>

33.	ITIMP33	A novel weakly supervised multitask architecture for retinal lesions segmentation on fundus images	Retinal lesions can affect any part of your retina. This project aims to detect retinal lesions using image processing.	<a href="#">CLICK HERE</a>
34.	ITIMP34	Leaf recognition based on elliptical half gabor and maximum gap local line direction pattern	Plant recognition can be used to classify plants into appropriate taxonomies. This project aims to classify plant leaf's using image processing	<a href="#">CLICK HERE</a>

### STEGANOGRAPHY

S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
35.	ITIMP35	Image compression and encryption scheme based on compressive sensing and fourier Transform.	Video is the most useful and most appealing approach to represent some information. The huge usage of digital multimedia via communications media, wireless.	<a href="#">CLICK HERE</a>
36.	ITIMP36	An efficient msb prediction-based method for high-capacity reversible data hiding in Encrypted images	Text encryption is process of hiding the text into the image in order to prevent unauthorized persons to gain access to confidential message. Message is the transfer of information from the sender to the receiver through a particular medium.	<a href="#">CLICK HERE</a>
37.	ITIMP37	A New Payload Partition Strategy In Color Image Steganography.	Steganography is the process of hiding a secret message. This project aims to hide the images using image processing.	<a href="#">CLICK HERE</a>

### BIOMETRICS

S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
38.	ITIMP38	Out-of-distribution detection for reliable face recognition	The system of face detection and authentication plays an important role in many security systems. However, the vulnerability to presentation attacks limits its usability in unsupervised applications.	<a href="#">CLICK HERE</a>
39.	ITIMP39	A unified deep model for joint facial expression recognition, face synthesis, and face alignment	Creating our own database of faces and recognizing faces utilizing the CNN between the authorized and unauthorized images. And finally we detect the emotions in humans.	<a href="#">CLICK HERE</a>
40.	ITIMP40	Hybrid score- and rank-level fusion for person identification using face and ecg data	Biometric systems as these systems use unique behavioral or physical data to recognize individuals. Unimodal systems use only one biometric trait for user recognition, while multimodal systems use multiple traits.	<a href="#">CLICK HERE</a>
41.	ITIMP41	Characterizing and evaluating adversarial examples for offline handwritten signature Verification	A biometric technique that finds fake and real a person's signature using image processing.	<a href="#">CLICK HERE</a>

42.	ITIMP42	Morphology-based banknote fitness determination	Banknote recognition determines the denomination of the input currency paper, and fitness classification evaluates the physical condition of the banknote. This project aim to determine the banknote fitness using image processing.	<a href="#">CLICK HERE</a>
<b>IMAGE CLASSIFICATION</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
43.	ITIMP43	Hand Gesture Recognition For Sign Language Using 3dcnn	Hand Gesture Recognition (HGR) system has become essential tool for deaf-dumb people to interact with normal users via computer system.	<a href="#">CLICK HERE</a>
44.	ITIMP44	Machine Learning Driven Approach Towards The Quality Assessment Of Fresh Fruits Using Non- Invasive Sensing	Grading and classification of fruits is based on observations and through experiences. The system utilizes image-processing techniques to classify and grade quality of fruits. We used a CNN (convolutional neural network).	<a href="#">CLICK HERE</a>
<b>AUDIO PROCESSING</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
45.	ITIMP45	Curriculum Learning For Speech Emotion Recognition From Crowd Sourced Labels	Speech Emotion Recognition (SER) can be defined as extraction of the emotional state of the speaker from his or her speech signal. This project aims to determine the speech emotion recognition using signal processing.	<a href="#">CLICK HERE</a>
<b>ARDUINO WITH MATLAB</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
46.	ITIMP46	Face detection and recognition system using digital image processing	The system of face detection and authentication plays an important role in many security systems. However, the vulnerability to presentation attacks limits its usability in unsupervised applications.	<a href="#">CLICK HERE</a>
47.	ITIMP47	Out-of-distribution detection for reliable face recognition	Creating our own database of faces and recognizing faces utilizing the CNN between the authorized and unauthorized images. And finally we detect the emotions in humans.	<a href="#">CLICK HERE</a>
48.	ITIMP48	Machine learning driven approach towards the quality assessment of fresh fruits using non- invasive sensing	Grading and classification of fruits is based on observations and through experiences. The system utilizes image-processing techniques to classify the fruit.	<a href="#">CLICK HERE</a>
49.	ITIMP49	IoT based smart irrigation system using sensors and image processing	Today the farmers are finding difficulty in monitoring the field about moisture content and temperature of the field. Hence, this project is developed to Internet of Things (IoT) and Image processing.	<a href="#">CLICK HERE</a>

50.	ITIMP50	Machine vision based traffic sign detection methods: review, analyses and perspectives	Traffic-sign recognition (TSR) is a technology by which a vehicle is able to recognize the traffic signs. This project aim to detect traffic signs using image processing and display the result in LCD using Arduino.	<a href="#"><u>CLICK HERE</u></a>
51.	ITIMP51	A vehicle detection technique for traffic management using image processing	This project is to design a density based dynamic traffic control system. The number of vehicles passing on road is get counted by microcontroller. In the proposed system, we measure the traffic density using image processing by MATLAB.	<a href="#"><u>CLICK HERE</u></a>
52.	ITIMP52	A two-stage deep neural network for multi-norm license plate detection and recognition	Automatic Number Plate Recognition system is an application of image processing technology that displays the number plate information into text in LCD using Arduino.	<a href="#"><u>CLICK HERE</u></a>
53.	ITIMP53	Driver drowsiness detection system using image processing technique by the human visual system	Driver drowsiness contributes to many car crashes and fatalities in the United States. Machine learning algorithms have shown to help in detecting driver drowsiness.	<a href="#"><u>CLICK HERE</u></a>
54.	ITIMP54	Animal detection using deep learning algorithm	The proposed detection system is activated when an object approaches its field of vision, by the use of deep learning techniques; automated object recognition is achieved to detect the animals.	<a href="#"><u>CLICK HERE</u></a>
55.	ITIMP55	Smart garbage separation robot with image processing technique.	An efficient method to dispose the waste has been designed in our project, "automatic waste segregator and monitoring system".	<a href="#"><u>CLICK HERE</u></a>

# POWER ELECTRONICS

## RENEWABLE ENERGY

### SOLAR ENERGY

S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
1.	ITPW01	Adaptive Damped Circular Current Limit Control for PV-Grid Tied System	This work is about Double-stage PV-grid tied system. The adaptive damped circular current limit control (ADCCL) current controller is used for fundamental extraction from the nonlinear load. Incremental conductance algorithm is used as MPPT control for boost converter.	<a href="#">CLICK HERE</a>
2.	ITPW02	An Experimental Estimation of Hybrid ANFIS-PSO-Based MPPT for PV Grid Integration Under Fluctuating Sun Irradiance	The proposed hybrid ANFIS-PSO-based MPPT algorithm has been implemented for PV MPPT functioning and grid integration. A Zeta converter controlled by a hybrid PSO-ANFIS algorithm with space vector PWM (SVPWM) inverter control.	<a href="#">CLICK HERE</a>
3.	ITPW03	Improved Perturb and Observation Maximum Power Point Tracking Technique for Solar Photovoltaic Power Generation Systems	The proposed modified (adaptive) P&O technique is tested to avoid failure in tracking the MPP under a fast change in solar insolation. To implement this technique, the dc-dc converter is required between the load and the PV module.	<a href="#">CLICK HERE</a>
4.	ITPW04	A Novel Transformerless Single-Stage Grid-Connected Solar Inverter	A transformerless single-stage grid-connected solar inverter with a combination of bidirectional DC/DC boost converter followed by a flyback-inductor inverter is proposed.	<a href="#">CLICK HERE</a>
5.	ITPW05	A Fusion Firefly Algorithm with Simplified Propagation for Photovoltaic MPPT under Partial Shading Conditions	An improved maximum power point tracking (MPPT) algorithm based on the fusion firefly algorithm (FA). FA-based solar MPPT algorithm that can mitigating oscillations during the tracking process under partial shading conditions.	<a href="#">CLICK HERE</a>
6.	ITPW06	A High Step-Up Interleaved DC-DC Converter With Voltage Multiplier and Coupled Inductors for Renewable Energy Systems	This work proposes a new interleaved non-isolated high step-up dc-dc converter for interfacing renewable energy applications. The proposed converter achieves a very high step-up voltage gain by using two coupled inductors and a voltage multiplier cell.	<a href="#">CLICK HERE</a>
7.	ITPW07	Novel High Gain, High Efficiency DC-DC Converter Suitable for Solar PV Module Integration With Three-Phase Grid Tied Inverter.	Proposed converter provides high voltage gain at high efficiency without requiring a high duty ratio. The gain achieved is sufficient to interface the low voltage source directly to the inverter.	<a href="#">CLICK HERE</a>
8.	ITPW08	Design and Hardware Implementation Considerations of Modified Multilevel Cascaded H-Bridge	Proposed single phase modified 5-level symmetric cascaded multilevel H-bridge inverter has 5-level inverter which employed 6 switches, and used sinusoidal PWM	<a href="#">CLICK HERE</a>



		Inverter for Photovoltaic System Photovoltaic System.	technique for switching. Incremental conductance MPPT technique is used.	
<b>WIND ENERGY</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
9.	ITPW09	Step-Down Switched-Inductor Hybrid DC-DC Converter for Small Power Wind Energy Conversion Systems with Hybrid Storage	This work is focused on a step-down switched-inductor hybrid dc-dc converter integrated in a small power wind energy conversion system (WECS).	<a href="#"><u>CLICK HERE</u></a>
10.	ITPW10	Analysis and Control of the Inductorless Boost Rectifier for Small Power Wind Energy Converters	This work is about a cost-effective modification of the power topology commonly found in small wind turbine systems based on a passive rectifier and a boost converter.	<a href="#"><u>CLICK HERE</u></a>
11.	ITPW11	A Modular Step-up Converter with Soft-Switching-Assisted Networks and Internally-Coupled High-Voltage-Gain Modules for Wind Energy System with a Medium Voltage DC-Grid	This paper proposes a modular structure of a soft-switched high power factor AC/DC step-up converter and voltage doublers is proposed for medium voltage (MV) DC conversion in wind energy systems.	<a href="#"><u>CLICK HERE</u></a>
<b>HYBRID ENERGY</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
12.	ITPW12	Non-Isolated High-Gain Triple Port DC-DC Buck-Boost Converter with Positive Output Voltage for Photovoltaic Application	This work is to design and analyze the proposed triple port DC-DC buck-boost converter for high step-up/step-down applications. The conversion ratio is higher than the conventional buck-boost converter.	<a href="#"><u>CLICK HERE</u></a>
13.	ITPW13	Energy Management System for Small Scale Hybrid Wind Solar Battery Based Microgrid	The proposed system has solar and wind based renewable energy sources supported by a battery storage system along with their converters connected to the DC bus, the load side inverter and single-phase load, and implementing the energy management system.	<a href="#"><u>CLICK HERE</u></a>
14.	ITPW14	An Extendable Quadratic Bidirectional DC-DC Converter for V2G and G2V Applications	This work focuses on the bidirectional DC-DC converter of the Grid to vehicle and Vehicle to grid systems and non-isolated extendable bidirectional DC-DC is engaged to a battery.	<a href="#"><u>CLICK HERE</u></a>
15.	ITPW15	A Multilevel Distributed Hybrid Control Scheme for Islanded DC Microgrids	Distributed hybrid control for solar PV, battery, super capacitor for dc Microgrid. This hybrid scheme easily satisfies the load demand.	<a href="#"><u>CLICK HERE</u></a>
16.	ITPW16	A Three-port LLC resonant DC/DC converter storage	This paper proposes a new three-port LLC resonant converter which integrates input port, storage port, and load port in one converter. Phase-shifted pulse-frequency modulation is adopted for the proposed topology.	<a href="#"><u>CLICK HERE</u></a>

17.	ITPW17	PWM Plus Phase-Shift Modulated Three-Port Three-Level Soft-Switching Converter Using GaN Switches for Photovoltaic Applications	Three port Bi-directional converter used in proposed system. It has to interface the renewable energy sources with load and presence of energy storage device in single stage of power conversion. Used for Hybrid Battery-PV-Microgrid systems. Phase shifted Pulse width modulation is used.	<a href="#"><u>CLICK HERE</u></a>
<b>AC TO DC CONVERSIONS</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
18.	ITPW18	Modulation of Bidirectional AC/DC Converters Based on Half-Bridge Direct-Matrix Structure	This work is about a half-bridge direct-matrix-based AC/DC converter is proposed, which also has a single-stage power conversion and a capability of bidirectional power transfer.	<a href="#"><u>CLICK HERE</u></a>
19.	ITPW19	Simplified Hybrid AC-DC Microgrid with a Novel Interlinking Converter	Hybrid AC-DC microgrids by using the new multi-port interlinking converter is proposed with an Intermediate Bus, a front-end converter steps down the main DC bus voltage to the first-level bus voltage and provides galvanic isolation.	<a href="#"><u>CLICK HERE</u></a>
20.	ITPW20	A Three-Phase Single-Stage AC-DC Wireless-Power-Transfer Converter with Power Factor Correction and Bus Voltage Control	A three-phase single-stage wireless-power-transfer resonant converter with power factor correction and bus voltage control is proposed to improve efficiency and power quality of three-phase input, and complexity for high power wireless-power-transfer system.	<a href="#"><u>CLICK HERE</u></a>
21.	ITPW21	Highly-Efficient Bridgeless Dual-Mode Resonant Single Power-Conversion AC-DC Converter	In bridgeless single power-conversion ac-dc converter, the single bidirectional switch is used to transfer energy to the secondary side without rectifying the ac grid voltage.	<a href="#"><u>CLICK HERE</u></a>
<b>DC TO AC CONVERSION</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
22.	ITPW22	Low MOSFET Count Isolated DC-AC Converter.	Soft-switched single stage isolated dc-ac converter requires a lesser number of MOSFETs compared to widely studied cycloconverter type (CCT) isolated dc-ac converter topology.	<a href="#"><u>CLICK HERE</u></a>
23.	ITPW23	A Nonisolated Step-up DC-AC Converter with Reduced Leakage Current for Grid-connected Photovoltaic Systems.	Step-up dc-ac converter is proposed for distributed low voltage photovoltaic (PV) systems. It has a common ground between the dc photovoltaic input and ac output voltage, which can reduce the leakage current.	<a href="#"><u>CLICK HERE</u></a>
24.	ITPW24	Two-Stage Isolated Bidirectional DC-AC Converters With Three-Port Converters and Two DC-Buses.	Dual-dc-bus-based two-stage structure for bidirectional isolated DC-AC power conversion. Three-port bidirectional inverter/rectifier, which are able to interface with two DC-buses simultaneously, are keys to implement the proposed structure.	<a href="#"><u>CLICK HERE</u></a>

25.	ITPW25	A Review of Control Methods on Suppression of 2omega(w) Ripple for Single-Phase Quasi-Z-Source Inverter.	The model of Single-Phase Quasi-Z Source (QZS) inverter and closed-loop control methods of the inverter are proposed. The control methods are used to eliminate the ripples at $2\omega$ frequency in the use of inverters.	<a href="#"><u>CLICK HERE</u></a>
<b>MULTI LEVEL INVERTER</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
26.	ITPW26	Cross Connected Compact Switched-Capacitor Multilevel Inverter (C3-SCMLI) Topology with Reduced Switch Count	It uses four switches and two diodes for interconnecting the input dc source and floating capacitors (FCs). A nine-level inverter is derived with the proposed cell requiring only ten switches and two FCs.	<a href="#"><u>CLICK HERE</u></a>
27.	ITPW27	A Fault-Tolerant Hybrid Cascaded H-Bridge Multilevel Inverter	The cascaded H-bridge inverter is one of the most attractive multilevel topologies for renewable energy applications. Level shifted PWM is implemented and five level output is get from one of the inverter.	<a href="#"><u>CLICK HERE</u></a>
28.	ITPW28	Optimal Design of a New Cascaded Multilevel Inverter Topology With Reduced Switch Count	A cascaded multilevel inverter topology is proposed, which is able to generate a higher number of levels with reduced number of switches. The basic is to generate 11 levels across the load employing eight switches with three dc voltage sources.	<a href="#"><u>CLICK HERE</u></a>
29.	ITPW29	A Seven-level Inverter with Self balancing and Low Voltage Stress	This work is about the switched-capacitor (SC) based a seven-level inverter is proposed, which can synthesize seven levels containing a single dc source.	<a href="#"><u>CLICK HERE</u></a>
30.	ITPW30	Dual-T-Type Seven-Level Boost Active-Neutral- Point-Clamped (DTT-7L-BANPC) Inverter	An alternative Active-Neutral- Point-Clamped topology is established by using two T-type inverters. Two floating capacitors with self-voltage balancing capability are integrated to achieve a voltage-boosting gain of 1.5. In addition, it is capable of generating seven voltage levels.	<a href="#"><u>CLICK HERE</u></a>
<b>DC TO DC CONVERSIONS</b>				
S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
31.	ITPW31	Analysis and Design of Quasi-Z-Source Equivalent DC-DC Boost Converters	This work is about three switched-capacitor based Z source equivalent DC-DC boost converter topologies. Three L-C-D components are arranged in $\Delta$ -form) to achieve the boosting features equivalent to quasi-Z-source DC-DC converter with minimal number of components.	<a href="#"><u>CLICK HERE</u></a>
32.	ITPW32	Ultrahigh-Step-Up Nonisolated Interleaved Boost Converter	In this work, a new non-isolated interleaved boost topology with ultra large step voltage ratio based on coupled inductors (CIs) and switched capacitors are proposed.	<a href="#"><u>CLICK HERE</u></a>

33.	ITPW33	Leakage Inductor Current Peak Optimization for Dual-transformer Current-Fed Dual Active Bridge DC-DC Converter with Wide Input and Output Voltage Range	A Current-Fed dual active bridge DC-DC converter using dual transformers is proposed for the energy storage system and electric vehicles, which is suitable to be used in wide input and wide output voltage range bidirectional power flow applications.	<a href="#">CLICK HERE</a>
34.	ITPW34	Hybrid Buck-Boost Multi Output Quasi Z-Source Converter with Dual DC and Single AC Outputs	This paper presents two hybrid multi output buck-boost quasi z-source converters (q-ZSCs) capable of giving two dc and one ac outputs simultaneously from a single dc input.	<a href="#">CLICK HERE</a>
35.	ITPW35	Non-isolated DC-DC Converters with Wide Conversion Range for High-Power Applications	This work presents the conception of a family of dc-dc converters with wide conversion range based on the multi-state switching cell (MSSC) for high-power, high-current applications.	<a href="#">CLICK HERE</a>
36.	ITPW36	Current Ripple Optimization of Four-Phase Floating Interleaved DC-DC Boost Converter under Switch Fault	This work is about floating interleaved boost converter to deal with the undesired high input current ripple. Phase shifting based on the carrier wave in pulse width modulation (PWM) module is implemented.	<a href="#">CLICK HERE</a>

### AC TO AC (CYCLOCONVERTER)

S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
37.	ITPW37	Three-Phase to Single-Phase Multi-Resonant Direct AC-AC Converter for Metal Hardening High-Frequency Induction Heating Applications	A new multi-resonant three-phase utility frequency ac to high-frequency AC direct power converter for the induction heating (IH) applications.	<a href="#">CLICK HERE</a>
38.	ITPW38	Single-Phase AC-DC-AC Three-Level Three-Leg Converter with Reduced Switch Count	Single-phase AC-DCAC three-level three-leg converter composed of three coupled inductors and six active switches.	<a href="#">CLICK HERE</a>
39.	ITPW39	A New Modular Multilevel AC/AC Converter Using HF Transformer	The proposed converter topology can connect two three-phase AC systems with different frequencies and amplitudes directly. Carrier phase-shifted pulse width modulation (CPS-PWM) is implemented HF control.	<a href="#">CLICK HERE</a>

### AC & DC DRIVES

S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
40.	ITPW40	Standalone Single Stage PV fed Reduced Switch Inverter Based PMSM for Water Pumping Application	The proposed system comprises of a PMSM drive, fed by PV source through an inverter employing reduced number of switches. The inverter uses only four switches whereas the conventional VSI utilizes six switches.	<a href="#">CLICK HERE</a>
41.	ITPW41	PMSM Open-Phase Fault-Tolerant Control Strategy based on Four Four-Leg Inverter	This work is about fault-tolerant method for open-phase PMSM is proposed by designing a novel transformation matrix for current/voltage references.	<a href="#">CLICK HERE</a>

42.	ITPW42	Improving the DC-link Utilization of Nine Switch Boost Inverter suitable for Six Phase Induction motor	This work proposes a nine-switch boost inverter (NSBI) for six-phase induction drive applications. It has a single input dc voltage source and it provides six-phase ac output voltages. These six phase output voltages are regulated by using modified non sinusoidal PWM technique.	<a href="#">CLICK HERE</a>
43.	ITPW43	Grid Interactive Solar PV-Based Water Pumping Using BLDC Motor Drive	This paper proposes a bidirectional power flow control of a grid interactive solar photovoltaic (PV) fed water pumping system.	<a href="#">CLICK HERE</a>
44.	ITPW44	Fault tolerant voltage source inverter for induction motor	This study investigates some of the possible faults in the inverter circuits of induction motor by performing fault analysis on the current waveforms using harmonic spectrum. A fault tolerant system is proposed which can operate even after occurrence of the fault in runtime.	<a href="#">CLICK HERE</a>
45.	ITPW45	A Grid Interactive Permanent Magnet Synchronous Motor Driven Solar Water Pumping System	The proposed PMSM driven pump is capable to feed generated solar PV array power to the grid, when water pumping is not required. The seamless operation of PMSM driven WPS is proposed for grid connected mode and standalone mode.	<a href="#">CLICK HERE</a>

### ELECTRICAL VEHICLE APPLICATION

S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
46.	ITPW46	A Multifunctional Solar PV and Grid Based On-Board Converter for Electric Vehicles	This work deals with the development of a multifunctional power electronic converter (PEC) utilizing dual power sources (grid and solar photovoltaic (PV)) for charging phenomenon of plug-in electric vehicles (PEVs).	<a href="#">CLICK HERE</a>
47.	ITPW47	Switched-Capacitor Voltage Boost Converter for Electric and Hybrid Electric Vehicle Drives	This paper proposes a switched-capacitor (SC) voltage boost converter and its control methods for implementing dc-ac and ac-dc power conversion.	<a href="#">CLICK HERE</a>
48.	ITPW48	Power Factor Corrected Resonant EV Charger Using Reduced Sensor Based Bridgeless Boost PFC Converter	Bridgeless boost (BLB) PFC converter fed full bridge inductor-inductor capacitor (FBLLC) converter for electric vehicle (EV) charging, is presented in this work.	<a href="#">CLICK HERE</a>
49.	ITPW49	A PFC Based EV Battery Charger Using a Bridgeless Isolated SEPIC Converter	This paper proposes the design and implementation of a new BL isolated SEPIC converter to be operated in discontinuous conduction mode (DCM) for PFC operation. The goals of high efficiency and high power density.	<a href="#">CLICK HERE</a>
50.	ITPW50	Design and Development of Modified BL Luo Converter for PQ Improvement in EV charger	This work is to design and develop improved BL Luo converter for EV charger. The converter provides low cost and high power density based EV charging solution as fewer number of components conduct over single switching cycle due to elimination of input	<a href="#">CLICK HERE</a>

			diode bridge in conventional Luo PFC converter.	
51.	ITPW51	High-Efficiency SiC-Based Isolated Three-Port DC/DC Converters for Hybrid Charging Stations	This work proposes a novel isolated three-port DC/DC converter based on a series resonant converter (SRC) and a dual active bridge (DAB) converter for electric-vehicle (EV) charging stations with fast and slow charging functions.	<a href="#"><u>CLICK HERE</u></a>
52.	ITPW52	Power Factor Improvement in Modified Bridgeless Landsman Converter Fed EV Battery Charger	This paper proposes modified Landsman converter (The input DBR is eliminated by two Landsman converter) fed battery charger consists of two stages, a modified BL converter for improved input wave-shaping and an isolated converter for the charging of EV battery during constant current (CC) constant voltage (CV) conditions.	<a href="#"><u>CLICK HERE</u></a>

## POWER SYSTEMS

S.N	P.CODE	PROJECT TITLE	DESCRIPTION	ONLINE EXPLANATION
1.	ITPS01	A Novel DROGI-Based Detection Scheme for Power Quality Improvement Using Four-Leg Converter Under Unbalanced Loads	In three-phase four-wire systems, the four-leg converter has been an attractive solution for mitigating power quality problems, such as reactive power compensation, load balancing, etc. Control method named double reduced-order generalized integrators (DROGI) is used to control the four-leg converter	<a href="#"><u>CLICK HERE</u></a>
2.	ITPS02	A Unified Power Flow Controller Using a Power Electronics Integrated Transformer	This work is about Unified Power Flow Controller (UPFC) application of the Custom Power Active Transformer (CPAT); a power electronics integrated transformer which provides services to the grid through its auxiliary windings.	<a href="#"><u>CLICK HERE</u></a>
3.	ITPS03	Stability Analysis of Power Systems with Multiple STATCOMs in Close Proximity	Multiple STATCOM units have been adopted in power transmission systems in order to obtain a better voltage regulation and to share loads.	<a href="#"><u>CLICK HERE</u></a>
4.	ITPS04	TOCF Based Control for Optimum Operation of a Grid Tied Solar PV System	A third order complex filter (TOCF) based control technique is used for a double stage grid tied solar photovoltaic (PV) system. The PV array generates the real power and provides it to the load connected and remaining to the utility.	<a href="#"><u>CLICK HERE</u></a>
5.	ITPS05	Power Quality Improvement Using Dynamic Voltage Restorer	Dynamic Voltage Restorer (DVR) is widely adopted to surmount the problems of non-standard voltage, current in the distribution grid. It injects voltages in the distribution line to maintain the voltage profile and assures constant load voltage.	<a href="#"><u>CLICK HERE</u></a>
6.	ITPS06	A Single-Stage Dynamically Compensated IPT Converter With Unity Power Factor and Constant Output Voltage Under Varying Coupling Condition	A dynamic series/series-parallel compensation network based on a switch-controlled capacitor is proposed to rematch the series and parallel-resonant frequencies of the network such that the magnetizing inductance can be adaptively compensated	<a href="#"><u>CLICK HERE</u></a>

7.	ITPS07	Adaptive Reactive Power Control of PV Power Plants for Improved Power Transfer Capability under Ultra-Weak Grid Conditions	An adaptive reactive power control method is proposed for PV power plant to automatically dispatch the reactive power demands on the individual inverters. It is revealed that the power transfer capability of PV power plant under the ultra-weak grid is significantly improved with the low PF operation.	<a href="#"><u>CLICK HERE</u></a>
8.	ITPS08	A Single Input Variable FLC for DFIG Based WPGS in Standalone Mode	This paper proposes a novel single input variable fuzzy logic controller (FLC) strategy for a wind turbine driven doubly fed induction generator (DFIG) with battery energy storage (BES) in autonomous mode.	<a href="#"><u>CLICK HERE</u></a>
9.	ITPS09	Stability Analysis for the Grid-Connected Single-Phase Asymmetrical Cascaded Multilevel Inverter with SRF-PI Current Control.	The influence of phase-locked loop (PLL) on the stability of LCL-type single-phase grid-connected asymmetrical cascaded H-bridge multilevel inverter (ACHMI) with synchronous reference frame proportional-integral (SRF-PI) grid current control under weak grid scenarios.	<a href="#"><u>CLICK HERE</u></a>
10.	ITPS10	A STATCOM Based on a Three-Phase, Triple Inverter Modular Topology for Multilevel Operation	In this paper a Static Synchronous Compensator (STATCOM) is proposed in which a new modular structure with conventional three-phase voltage source inverters is used to multilevel operation.	<a href="#"><u>CLICK HERE</u></a>