iGeeks
Bridging Technology

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FINAL YEAR PROJECTS

BE, ME, B. TECH, M. TECH,
MCA, BCA, B.SC,MBA

IEEE PROJECTS

ELECTRONICS PROJECTS 2025-26

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Electronics Projects for Engineering Students

ECE includes both the fundamentals of electrical engineering and communication engineering. Electronic components, circuits, and communication tools including transmitters, receivers, and integrated circuits all are deal with in IT (IC). Additionally, it covers fundamental electronics, analogue and digital voice, video, and data transmission and reception (for instance, AM, FM, and DTH), microprocessors, satellite communication, microwave engineering, antennas, and wave progression. It aims to deepen students' understanding of fundamental concepts and theories so they are better prepared for their professional work in the field of electronics and communications engineering, which involves analysis, systems implementation, operation, production, and maintenance of a variety of applications.

Electronics Project Ideas

The latest and revolutionary Electronics Project Ideas can be find here at Igeeks Technologies. We provide microcontroller based projects, which include sensor-based projects, wireless communication projects, GSM & GPS based projects, Android based projects, Touch screen based projects, Robotics projects, and RFID based projects. We develop projects in different microcontrollers like 8051 microcontroller, PIC microcontroller, AVR microcontroller, Arduino UNO & Raspberry Pi.

In what way can the students benefit by choosing Igeeks for their Projects?

We have plenty of options for any electronics domain students to choose from for their doing UG or PG final year projects as well as the mini-project. Be it the simple embedded application project or sophisticated, we are always there to help the

students for all their needs from the start of their project. We have served over 10,000 + students for their academic projects by a pool of embedded equipment, resources for project implementation, infrastructure, etc. As many latest projects on embedded systems for ECE have been comprehensively listed for you, it is now your turn to make the wiser decision to choose Igeeks for your project so that you can be risk and stress free yet able to complete your project without any hustle.

PYTHON – ML, AI, NN, IP, DL SOFTWARE BASED PROJECT TITLES	
IPMA001	21_IEEE_MONITORING PANDEMIC PRECAUTIONARY PROTOCOLS USING REAL-TIME SURVEILLANCE AND ARTIFICIAL INTELLIGENCE
IPMA002	DEEP-LEARNING-BASED ROAD CRACK DETECTION FRAMEWORKS FOR DASHCAM-CAPTURED IMAGES
IPMA003	A FRAMEWORK FOR ANALYSIS OF ROAD ACCIDENTS
IPMA004	25_PY_SUICIDAL IDEATION DETECTION: A REVIEW OF MACHINE LEARNING METHODS AND APPLICATIONS
IPMA005	26_PY_SOCIAL DISTANCING DETECTION FOR COVID-19 USING OPENCV AND DEEP LEARNING
IPMA006	27_PY_PREDICTING ANXIETY DEPRESSION AND STRESS IN MODERN LIFE USING DASS21 QUESTIONNAIRE DATASET
IPMA007	28_PY_FEATURES EXTRACTION AND CLASSIFICATION FOR DETECTION OF KIDNEY STONE REGION IN ULTRASOUND IMAGES
IPMA008	29_PY_PREDICTING EXPLOSIVE GAS COMPONENTS USING MACHINE LEARNING
IPMA009	30_PY_PERFORMANCE EVALUATION OF ML CREDIT CARD FRAUD DETECTION
IPMA010	32_PY_20_IN-DEPTH SURVEY TO DETECT, MONITOR AND MANAGE CROWD
IPMA011	33_PY_FAKE CURRENCY DETECTION USING DIGITAL IMAGE PROCESSING
IPMA012	35_PY_GENDER RECOGNITION BY VOICE USING AN IMPROVED ML ALGORITHM
IPMA013	36_PY_IMAGE PROCESSING FOR MANGO RIPENING STAGE DETECTION
IPMA014	15_PY_MACHINE LEARNING TECHNIQUES FOR STRESS PREDICTION IN WORKING EMPLOYEES
IPMA015	16_PY_INTRADAY STOCK PRICE FORECASTING USING AN AUTO REGRESSIVE TIME SERIES MODEL – ARIMA
IPMA016	16_PY_NIFTY INDEX PREDICTION APPROACH FOR STOCK MARKET VOLATILITY BASED ON TIME SERIES – ARIMA
IPMA017	17_PY_HEART DISEASE IDENTIFICATION METHOD USING MACHINE LEARNING CLASSIFICATION IN E-HEALTHCARE
IPMA018	18_PY_LOAN APPROVAL PREDICTION BASED ON MACHINE LEARNING APPROACH
IPMA019	19_PY_FRUIT DISEASE CLASSIFICATION AND IDENTIFICATION USING IMAGE PROCESSING
IPMA020	20_PY_CLASIFICATION OF MEDICINAL PLANTS BY VISUAL CHARACTERISTICS OF FLOWERS
IPMA021	21_PY_KRISHI SADANA - PESTS CLASSIFICATION AND DETECTION USING MACHINE LEARNING

IPMA022	22_PY_COVID-19 FUTURE FORECASTING OF DEATH RATE USING ML
IPMA023	25_PY_SUICIDAL IDEATION DETECTION A REVIEW OF ML METHODS
IPMA024	CROP PREDICTION AND EFFICIENT USE OF FERTILIZERS USING MACHINE LEARNING
IPMA025	MACHINE LEARNING ANALYSIS OF AIRBREATHING PROPULSION OF TUROJET ENGINE
IPMA026	MACHINE LEARNING TECHNIQUES FOR STRESS PREDICTION IN WORKING EMPLOYEES
IPMA027	COVID-19 FUTURE FORECASTING OF DEATH RATE USING SUPERVISED MACHINE LEANING ALGORITHM
IPMA028	1_PY_MACHINE LEARNING APPROACH FOR AIR QUALITY PREDICTION AND ANALYSIS
IPMA029	2_PY_FEATURE EXTRACTOR ANALYSIS FOR TRAFFIC CLEARANCE IN EMERGENCY FOR AMBULANCE
IPMA030	3_PY_SKIN DISEASE RECOGNITION CNN
IPMA031	3_PY_SKIN DISEASE RECOGNITION METHOD BASED ON IMAGE COLOR AND TEXTURE FEATURES
IPMA032	5_PY_ARTIFICAL INTELLIGENCE BASED MATERIAL SORTING FOR INDUSTRIAL PRODUCTION
IPMA033	6_PY_CNN BASED LEAF DISEASE IDENTIFICATION AND REMEDY RECOMMENDATION SYSTEM
IPMA034	8_PY_VIRTUAL TRY ON SYSTEM FOR GARMENTS OUTLETS
IPMA035	14_PY_MACHINE LEARNING BASED BRAIN TUMOR ANALYSIS USING CONVOLUTIONAL NEURAL NETWORK
IPMA036	14_PY_DEEP LEARNING FOR MULTIGRADE BRAIN TUMOR CLASSIFICATION IN SMART HEALTHCARE SYSTEMS A PROSPECTIVE SURVEY
IPMA037	STRESS PREDICTION OF PROFESSIONAL STUDENTS USING MACHINE LEARNING
IPMA038	A PREDICTION APPROACH FOR STOCK MARKET VOLATILITY BASED ON TIME SERIES DATA
IPMA039	A WAVELET BASED DEEP LEARNING METHOD FOR UNDERWATER IMAGE SUPER RESOLUTION RECONSTRUCTION
IPMA040	DEEP NEURAL NETWORK ARCHITECTURE APPLICATION FOR FACIAL EXPRESSION RECOGNITION
IPMA041	COVID-19 SOCIAL DISTANCING DETECTOR IN VIDEO
IPMA042	MACHINE LEARNING METHODS FOR DISEASE PREDICTION WITH CLAIMS DATA
IPMA043	TIME SERIES PREDICTION OF AGRICULTURAL PRODUCTS PRICE BASED ON TIME ALIGNMENT OF RNN
IPMA044	AN EFFICIENT EDGE DETECTION APPROACH TO PROVIDE BETTER EDGE CONNECTIVITY FOR IMAGE ANALYSIS
IPMA045	GENDER CLASSIFICATION USING SENTIMENT ANALYSIS AND DEEP LEARNING IN A HEALTH WEB FORUM
IPMA046	CNN BASED LEAF DISEASE IDENTIFICATION AND REMEDY RECOMMENDATION SYSTEM
IPMA047	IDENTIFICATION OF PLANT DISEASE USING IMAGE PROCESSING TECHNIQUE
IPMA048	EFFECTIVE HEART DISEASE PREDICTION USING HYBRID MACHINE LEARNING TECHNIQUES
IPMA049	COMPARISON OF MACHINE LEARNING METHODS FOR BREAST CANCER DIAGNOSIS
IPMA050	CLUSTERS OF FEATURES USING COMPLEMENTARY INFORMATION APPLIED TO GENDER CLASSIFICATION FROM FACE IMAGES
IPMA051	AIR LEARNING INTERPOLATION, PREDICTION, AND FEATURE ANALYSIS OF FINE-GRAINED AIR

	QUALITY
IPMA052	FACE RECOGNITION AND AGE ESTIMATION IMPLICATIONS OF CHANGES IN FACIAL FEATURES
IPMA053	A PREDICTIVE DATA FEATURE EXPLORATION-BASED AIR QUALITY PREDICTION APPROACH
IPMA054	EFFECTIVE HEART DISEASE PREDICTION USING HYBRID MACHINE LEARNING TECHNIQUES
IPMA055	DEVELOPMENT OF A FULLY CROSS-VALIDATED BAYESIAN NETWORK APPROACH FOR LOCAL CONTROL PREDICTION IN LUNG CANCER
IPMA056	MACHINE LEARNING ANALYSIS OF SPEECH DETECTS ANXIETY AND DEPRESSION IN EARLY CHILDHOOD

PYTHON – ML, AI, NN, IP, DL BASED PROJECTS USING HARDWARE TITLES	
IPMH001	CROP PREDICTION AND EFFICIENT USE OF FERTILIZERS USING MACHINE LEARNING
IPMH002	ML USING SENSORS FOR AIR BREATHING PROPULSION OF TURBOJET ENGINE
IPMH003	ML USING SENSORS FOR STRESS PREDICTION IN WORKING EMPLOYEES
IPMH004	REAL TIME FACE MASK DETECTOR FOR COVID-19 SAFE SOCIAL DISTANCING
IPMH005	ARTIFICIAL INTELLIGENCE BASED MATERIAL SORTING FOR INDUSTRIAL PRODUCTION
IPMH006	1_PYEM_TERRORBOT – CASCADE CLASSIFIER TO DETECT TERRORIST AND SOLDIERS
IPMH007	2_PYEM_HUMAN STRESS ANALYSIS USING SENSORS AND MACHINE LEARNING TECHNIQUES
IPMH008	3_PYEM_FEATURE EXTRACTION BASED AIRPORT BAGGAGE CONVEYOR ALERT SYSTEM
IPMH009	4_PYEM_AUTOMATIC CONTROL OF DRIVER FATIGUE AND DROWSINESS LANDMARK PREDICTOR
IPMH010	5_PY_ARTIFICAL INTELLIGENCE BASED MATERIAL SORTING FOR INDUSTRIAL PRODUCTION
IPMH011	6_PY_CNN BASED LEAF DISEASE IDENTIFICATION AND REMEDY RECOMMENDATION SYSTEM
IPMH012	7_PYEM_FEATURE EXTRACTOR ANALYSIS FOR TRAFFIC CLEARANCE IN EMERGENCY FOR AMBULANCE AND FIRE ENGINES
IPMH013	8_PYEM_DEVELOPMENT OF FOOD TRACKING SYSTEM USING MACHINE LEARNING
IPMH014	9_PYEM_TRAINABLE AUTOMATIC ROBOT FOR AGRICULTURE PLANT LEAF WEEDING
IPMH015	10_PYEM_MACHINE LEARNING APPROACH FOR AIR QUALITY PREDICTION AND ANALYSIS
IPMH016	11_PYEM_ML ANALYSIS OF EMOTION DETECTS, ANXIETY AND DEPRESSION IN ADULT
IPMH017	12_PYEM_MACHINE LEARNING APPLIED TO ELECTRIFIED VEHICLE BATTERY SOC AND SOH ESTIMATION
IPMH018	13_PYEM_REAL-TIME EYE TRACKING FOR PASSWORD - GAZE BASED PIN AUTHENTICATION
IPMH019	14_PY_MACHINE LEARNING BASED BRAIN TUMOR ANALYSIS USING CNN WITH SMS NOTIFICATION
IPMH020	15_PYEM_MOTORCYCLE HELMET WEAR ANALYSIS USING SIFT FEATURE EXTRACTOR
IPMH021	16_PYEM_MACHINE LEARNING BASED FINGER GESTURE RECOGNITION FROM HOSPITAL ASSISTANT
IPMH022	17_PYEM_HUMAN ACTIVITY ANALYSIS USING SENSORS AND MACHINE LEARNING

	TECHNIQUES
IPMH023	18_PYEM_CROP PREDICTION AND EFFICIENT USE OF FERTILIZERS USING MACHINE LEARNING
IPMH024	19_PYEM_COVID-19 FACE MASK DETECTION WITH TEMPERATURE AND AUTO SANITIZER
IPMH025	19_PYEM_REAL TIME FACE MASK DETECTOR FOR COVID-19 SAFE SOCIAL DISTANCING
IPMH026	21_PYEM_ML APPROACH FOR AIR QUALITY PREDICTION AND ANALYSIS
IPMH027	26_PYEM_MONITORING SOCIAL DISTANCING FOR COVID-19 USING OPENCV AND AUTO SANITIZATION
IPMH028	FACE RECOGNITION AND AGE ESTIMATION IMPLICATIONS OF CHANGES IN FACIAL FEATURES
IPMH029	CVUCAMS: COMPUTER VISION BASED UNOBTRUSIVE CLASSROOM ATTENDANCE MANAGEMENT SYSTEM
IPMH030	IP-SUPER-PIXEL BASED FINGER EARTH MOVER'S DISTANCE FOR HAND GESTURE RECOGNITION
IPMH031	ACCELEROMETER-BASED HUMAN FALL DETECTION USING CNN
IPMH032	INDUSTRIAL MACHINE SHOP FLOOR OPERATOR EYE CLOSURE AND YAWNING ANALYSIS AND CONTROL USING LANDMARK PREDICTOR
IPMH033	SLEEPY BEHIND STUDIES - STUDENT DROWSINESS CONTROL USING LANDMARK PREDICTOR
IPMH034	STUDENT EYES CLOSURE AND YAWNING DETECTION FOR DROWSINESS ANALYSIS USING LANDMARK PREDICTOR
IPMH035	EMOPLAYER - FEATURE EXTRACTOR APPROACH FOR EMOTION BASED MUSIC PLAYER
IPMH036	MODIFIED CONVOLUTIONAL NEURAL NETWORK ARCHITECTURE ANALYSIS FOR FACIAL EMOTION RECOGNITION
IPMH037	ELDERLY ASSISTANT BASED ON FACE EMOTION AND POSTURE ANALYSIS
IPMH038	FACE FEATURE EXTRACTOR FOR EMOTION ANALYSIS AND BEHAVIOR ANALYSIS OF A PRISONER
IPMH039	SOIL CLASSIFICATION USING MACHINE LEARNING METHODS AND CROP SUGGESTION BASED ON SOIL SERIES
IPMH040	CLUSTERS OF FEATURES USING COMPLEMENTARY INFORMATION APPLIED TO GENDER CLASSIFICATION
IPMH041	FINGERPRINT IMAGE IDENTIFICATION FOR CRIME DETECTION
IPMH042	A NOVEL CASCADE CLASSIFIER OF VEHICLE UNLOCKING SYSTEM BASED ON FACE RECOGNITION
IPMH043	DEEP LEARNING-BASED HELMET WEAR ANALYSIS OF A MOTORCYCLE RIDER FOR INTELLIGENT SURVEILLANCE
IPMH044	RESTRICTED ZONE SIFT FEATURE EXTRACTOR FOR ATM SECURITY, HELMET DETECTION
IPMH045	ACCELEROMETER-BASED HUMAN FALL DETECTION USING CONVOLUTIONAL NEURAL NETWORKS
IPMH046	A NOVEL CASCADE CLASSIFIER OF VEHICLE UNLOCKING SYSTEM BASED ON FACE RECOGNITION

IOT PROJECT LIST 2025-2026

1	PERFECTLY KEYLESS - SECURE KEY MANAGEMENT WITH FUEL THEFT AND VEHICLE ANTI-THEFT ALERT
2	IOT BASED IRRIGATION SYSTEM WITH WITHOUT INTERNET AND PUMP SET CONTROL WITH STATUS NOTIFICATION
3	IOT - SMART SEATING MANAGEMENT IN PUBLIC BUS TRANSPORTATION USING IOT AND EMBEDDED SYSTEM
4	IOT - WEB LABORATORY- REMOTE VIRTUAL LAB ACCESS WITH GRAPH GENERATION.
5	IOT - CAMCORDER PIRACY - AADHAAR BASED ANTI-PIRACY SCREEN
6	IOT – CLCTO – CO-OPERATIVE LOGISTICS CARGO TRANSPORT OPTIMIZATION
7	RECOS – SMART SOCKET FOR ELECTRIC VEHICLE, WASHING MACHINE, GEYSER ENERGY CONTROL
8	SWACHH ABHIYAN - DOOR-TO-DOOR PICKUP OF HOUSEHOLD HAZARDOUS WASTE
9	IOT AND E GLOVE BASED NURSE CALLING SYSTEM
10	IOT – AWS BASED GNSS VIRTUAL TOLL E-TAXER
11	WEARABLE IOT – VIRTUAL PERIOD ATTENDANCE FOR INDUSTRIES AND COLLEGES
12	IOT - DESIGN AND DEVELOPMENT OF SYSTEM TO PREVENT THE CHAIN SNATCHING
13	IOT BASED MULTI-FUNCTION WAR ASSISTANCE ROBOT
14	IOT – NAVGUIDE - ELECTRIC AID FOR VISUALLY IMPAIRED PEOPLE
15	IOT – SOLEMATE – ELECTRONIC SHOES TO ASSIST VISUALLY CHALLENGED
16	IOT - MOBILITY ASSISTANCE TRAINER FOR VISUALLY IMPAIRED
17	IOT BASED MULTI FUNCTION WAR ASSISTANCE ROBOT
18	IOT BASED DELIVERY BOYS SAFETY CONTROL AND BIKE ANALYZER – HELMET
19	IOT_AIRPORT BAGGAGE CONVEYOR AND VOICE NOTIFICATION USING ANDROID TECHNOLOGY
20	IOT AYURVEDIC MEDICINE BEETEL LEAF VINE CULTIVATION USING IOT & WIRELESS SENSOR NETWORK
21	IOT AYURVEDIC MEDICINE TULSI, MINT, TURMERIC LAND FARMING WITH IOT & WIRELESS SENSOR NETWORK
22	IOT BASED SMART GEYSER AUTOMATION WRT ENVIRONMENT CONDITION TO SAVE ELECTRICITY
23	IOT BASED NOVEL LOW-COST SENSOR FOR HUMAN BITE FORCE MEASUREMENT
24	IOT - APARTMENT JAL SAMRUDHI WITH REAL TIME CLOUD SERVER
25	IOT-HIVE HOME AUTOMATION SYSTEM FOR INTRUSION DETECTION
26	IOT BASED REFRIGERATOR, STORAGE ROOM AND FMCG PRODUCTS STOCK MONITORING WITH EMAIL ALERT OF PURCHASE ORDER
27	IOT BASED SEMI-AUTOMATED RASH DRIVING DETECTION BY USING ACCELEROMETER SENSORS
28	IOT – WILDLIFE MONITORING, VIRTUAL FENCING WITH DEFORESTATION NOTIFICATIONS
29	IOT APPROACH TO ACCIDENT INTENSITY DETECTION, INTENSITY REPORTING USING CLOUD SERVER
30	IOT - EVIDENCE COLLECTION IN AUTOMOTIVE INDUSTRY FOR LEGAL CLAIM
31	IOT BASED AIR AND NOISE POLLUTION MONITORING IN URBAN AND RURAL AREAS, IMPORTANT ZONES
32	IOT - WEARABLE DEVICE – YOGA AND EXERCISE STREAMER

33	IOT - WEARABLE DEVICE – EXERCISE STREAMER, WITH CHILLIER JACKET
34	IOT BASED GARBAGE AND STREET LIGHT MONITORING SYSTEM
35	IOT BASED MONITORING AND SMART PLANNING OF URBAN SOLID WASTE MANAGEMENT
36	IOT & ANDROID BASED ON-STREET AND OFF-STREET PARKING AVAILABILITY PREDICTION & SPACE RESERVATION
37	AGRIBOT - IOT BASED SOLAR POWERED AGRIBOT FOR IRRIGATION – THINGSPEAK
38	IOT V2I COMMUNICATION - RSU UNIT FOR PERSISTENT TRAFFIC MEASUREMENT
39	IOT - SAFE DRIVE - DANGEROUS DRIVING RECOGNITION OF DELIVERY BOYS WITH SPEED LIMITER
40	IOT - SAFE DRIVE - DANGEROUS DRIVING RECOGNITION OF DELIVERY BOYS
41	IOT – SMART URBAN DATA LOGGER – ENVIRONMENT AND GARBAGE
42	DISTRIBUTED STRATEGY FOR EMERGENCY AMBULANCE ROUTING WITH ANDROID
43	ER LOCK - INTELLIGENT ANTI-THEFT TRACKING AND ACCIDENT DETECTION SYSTEM FOR AUTOMOBILES BASED ON IOT
44	IOT-ELECTRICITY ENERGY UNIT LIMITS PER SQFT LAND – RESOURCE MANAGEMENT RESPONSIBILITY PER FAMILY
45	IOT BASED FLOOD CROP LOSS ASSESSMENT AND SMART SECURITY
46	IOT BASED DELIVERY BOYS SAFETY CONTROL AND BIKE RASH DRIVING ANALYZER
47	IOT-INDUSTRIAL BREATH EXHALE

EMBEDDED PROJECT LIST 2025-2026

1	REAL-TIME DRIVER ADVISORY MODEL - INTELLIGENT TRANSPORTATION SYSTEMS
2	ANDROID BASED VEHICLE ANTI-THEFT ALARM AND TRACKING SYSTEM
3	INTELLIGENT ACCIDENT DETECTION CLASSIFICATION USING MOBILE PHONES
4	ROBOCHEF – ANDROID BASED INGREDIENT MIXTURE FOR FOOD INDUSTRY
5	A HYBRID APPROACH FOR IDENTIFICATION OF MANHOLE AND STAIRCASE TO ASSIST VISUALLY CHALLENGED
6	INNOVATION STRATEGY AND BETTERMENT PLANNING FOR SMART VILLAGE
7	A NOVEL APPROACH TO PROVIDE PROTECTION FOR WOMEN BY USING SMART SECURITY DEVICE
8	MINE DETECTION ROBOT AND RELATED HUMANITARIAN TECHNOLOGY
9	AN INTELLIGENT TRANSPORTATION SYSTEM APPLICATION FOR SMARTPHONES BASED ON VEHICLE POSITION IN VEHICULAR NETWORKS
10	A NOVEL APPROACH ON CEILING FANS BASED ON MEMS TECHNOLOGIES TO AVOID SUICIDE
11	COOPERATIVE SENSING AND WEARABLE COMPUTING FOR SEQUENTIAL HAND GESTURE RECOGNITION
12	DESIGNING AND IMPLEMENTATION OF A WIRELESS GESTURE CONTROLLED ROBOT FOR DISABLED AND ELDERLY PEOPLE
13	RESCUE TIME - SPEECH RESPONSE FOR CHAIN SNATCHING VICTIM
14	GESTURE CONTROLLED WIRELESS AGRICULTURAL WEEDING ROBOT
15	ISMART CYCLIST JACKET

16	A BLOCKCHAIN -BASED WATER CONTROL SYSTEM FOR THE AUTOMATIC MANAGEMENT OF IRRIGATION COMMUNITIES
17	DESIGN OF A MULTI SENSOR-BASED LOW-COST EDUCATIONAL ROBOT
18	DESIGN OF SMART HELMET FOR ACCIDENT AVOIDANCE
19	MULTIPLE UAVS-BASED SURVEILLANCE AND RECONNAISSANCE SYSTEM UTILIZING IOT PLATFORM
20	REMOTE HEALTH MONITORING OF ELDERLY THROUGH WEARABLE SENSORS
21	ZERO LABOUR - WET WASTE CRUSHER
22	AN APPROACH BASED ON A ROBOTICS OPERATION SYSTEM FOR THE IMPLEMENTATION OF INTEGRATED INTELLIGENT HOUSE SERVICES SYSTEM
23	TEMPERATURE SENSED OBSTACLE AVOIDING ROBOT
24	ROBOTIC FIRE DETECTOR, EXTINGUISHER, ANALYZER AND EMERGENCY ALERT
25	BLISTER TESTING IN DRUG INDUSTRY
26	EFFICIENCY IMPROVEMENT OF PHOTOVOLTAIC PANELS BY DESIGN IMPROVEMENT OF COOLING SYSTEM USING WATER COOLER
27	DRAINAGE CLEANING ROBOT
28	FARMER FRIENDLY SOLAR BASED VIRTUAL FENCING FOR RURAL AGRICULTURE WITH BATTERY REVERSE CHARGE PROTECTION
29	ANDROID BASED SIGN BOARD DETECTION WITH IMAGE & VOICE ALERT SYSTEM
30	APPLICATION OF RF TECHNOLOGY TO SOLVE TRAFFIC SIGNAL SCHEDULING BY MONITORING THE VEHICLE INTENSITY IN THE PARTICULAR ROAD
31	GESTURE AND SPEECH BASED WHEEL CHAIR CONTROL FOR PHYSICALLY CHALLENGED PERSON USING ANDROID BLUETOOTH TECHNOLOGY
32	SPEECH BASED WHEEL CHAIR CONTROL FOR PHYSICALLY CHALLENGED PERSON USING ANDROID BLUETOOTH TECHNOLOGY
33	AIRPORT ELECTRONIC PASSPORT SYSTEM AND TOLL COLLECTION SYSTEM USING RFID TECHNOLOGY
34	CAN TEST ANALYZER FOR QUALITY TESTING IN AUTOMOBILE PRODUCTION PLANT WITH AUTHORIZED REPORT GENERATION
35	REMOTE MONITORING OF CAR ENGINE USING CAN AND ZIGBEE PROTOCOLS AN APPLICATION OF WIRELESS DATA ACQUISITION
36	AUTOMATIC CONTROL OF STUDENTS ATTENDANCE IN CLASSROOMS USING RFID BASED ON SMS REQUEST
37	SIMPLE RADAR SYSTEM WITH BORDER SECURITY SYSTEM
38	WIRELESS TRANSFORMER PARAMETER MEASUREMENT AND PROTECTION
39	EARTHQUAKE DISASTER RESCUE ROBOT
40	BLUETOOTH EMBEDDED ROBOTIC AGRICULTURE PLOWING, SEEDING AND GRASS CUTTING POWERED BY SOLAR ENERGY
41	BT EMBEDDED ROBOTIC LAWN MOVER POWERED BY SOLAR ENERGY
42	SEED SOWING PLOWING AND WASTE GRASS CUTTING ROBOT WITH ANDROID APPLICATION
43	FLEX & ACCELERATION USED HAND GESTURE CONTROL OF ROBOT WITH MP3 VOICE OUTPUT
44	HAND GESTURE BASED ROBOT CONTROL WITH PICK AND PLACE OPERATION USING

	ACCELEROMETER
45	A REVIEW ON INDUSTRIAL AUTOMATION BY RADIO FREQUENCY BASED WIRELESS REMOTE CONTROLLER USING RENESAS RL78
46	DESIGN AND CONSTRUCTION OF MICROCONTROLLER BASED WIRELESS REMOTE CONTROLLED INDUSTRIAL ELECTRICAL APPLIANCES USING ZIGBEE TECHNOLOGY
47	INTELLIGENT REMOTELY DEVICE CONTROLLED SYSTEM FOR INDUSTRIAL ELECTRICAL APPLIANCES THROUGH ZIGBEE WIRELESS NETWORKS
48	ANDROID - ELECTRONIC STICK AND ANDROID SMARTPHONES TO THE AID OF BLINDLY DISABLED INDIVIDUALS
49	EMBED - ELECTRONIC STICK FOR VISION CONTROL OF PRE-DEFINED AREA WITH FN-M16P MODULE VOICE ALERT
50	ACCESSIBLE ELECTRONIC INTERACTION FOR PEOPLE WITH PARTIAL PARALYSIS
51	HEAD MOVEMENT BASED WIRELESS COMMUNICATION WITH SPEECH ALERT FOR PARALYZED PERSON
52	CONVERYOR SYSTEM AUTOMATED RESTAURANT MANAGEMENT SYSTEM
53	ROBOTIC AUTOMATED FOOD SERVICE PROVIDER IS HOTEL WITH ANDROID BASED INDIVIDUAL MENU SYSTEM
54	EVIDENCE COLLECTION IN AUTOMOTIVE INDUSTRY FOR LEGAL CLAIM
55	IMPLEMENTING INTELLIGENT TRAFFIC CONTROL SYSTEM FOR CONGESTION CONTROL, AMBULANCE CLEARANCE, AND STOLEN VEHICLE DETECTION
56	INTEGRATED AND AUTOMATED VEHICLE BAY ARRANGEMENT SYSTEM TO AVOID CONGESTION IN A PUBLIC PARKING AREA
57	DEMAND SIDE LOAD MANAGEMENT OF SMART GRIDS USING INTELLIGENT TRADING METERING BILLING
58	REAL TIME AUTOMATION IN PADDY FIELD WITH SECURITY
59	ANDROID - DESIGN OF AN INTELLIGENT COMBAT ROBOT FOR WAR FIELD
60	CUSTOMIZED WIRELESS SENSOR NODE TO DETECT HAZARDOUS GAS PIPELINE LEAKAGE
61	AUTOMATED BOOK PICKING ROBOT FOR LIBRARIES
62	AN AUTOMATIC EMBEDDED TOLL PLAZA WITH DOCUMENT VERIFICATION AND SPEED DETECTION SYSTEM
63	CO-OPERATIVE ADAPTIVE CRUISE CONTROL (CACC) BASED ON CAN PROTOCOL USING MICROCHIP
64	AADHAR CARD BASED BIOMETRICS ELECTRONIC VOTING SYSTEM WITH EMBEDDED SECURITY ALONG WITH REMOTE ACCESS
65	OPERATION THEATRE AUTOMATION & CONTROL (OTAC)
66	NICU MONITORING
67	GSM BASED INDUSTRIAL DISASTER INTIMATION CONTROL SYSTEM (GIDICS)
68	ATTITUDE AND HEADING REFERENCE (AHRS) SYSTEM FOR AEROSPACE APPLICATION
69	E GLOVE- PALM AND FINGERPRINT SENSOR GESTURE BASED FOR PICK AND PLACE REMOTELY USING RF TRANSMITTER AND RECEIVER
70	SOLAR POWERED HOUSE AND TRANSMITTING THE EXTRA POWER TO THE GOVERNMENT MAINS

71	SATELLITE AND RF ENABLED ASSISTANCE FOR MARINE NAVIGATION
72	RENESAS BASED RENEWABLE ENERGY - 12V DC POWER GENERATION USING BACK EMF & SOLAR FOR LED LOAD
73	BIRD - SOLAR POWERED IRRIGATION WITH AUTO CONTROL OF PUMP & SMS ALERT
74	SPEECH BASED HIGH ALERT BUILDING AUTOMATION AND SECURITY ALERT THROUGH ANDROID WITH EARTHQUAKE ALERT
75	SPEECH BASED CONTROL & ALERT SYSTEM FOR SENIOR CITIZENS USING ANDROID MOBILE
76	COIN BASED UNIVERSAL MOBILE BATTERY CHARGER, PURIFIED DRINKING WATER WITH EMERGENCY ALERT SYSTEM
77	REMOTE VIRTUAL LAB FOR RESEARCH & DEVELOPMENT INDUSTRY USING WIRELESS TECHNOLOGY
78	A REVIEW ON DESIGN OF AUTOMATED FLOOR CLEANING SYSTEM
79	GPS BASED CHILD TRACKING WITH SERVER & SMS ALERT TO PARENTS
80	EYE-BLINK CONTROL TO NAVIGATE A WHEEL CHAIR OF A PARALYZED INDIVIDUAL
81	HUMAN DETECTION IN NATURAL DISASTER USING ANDROID TECHNOLOGY
82	A_MEMS ACCELEROMETER SENSORS BASED SEMI-AUTOMATED RASH DRIVING
83	MEMS ACCELEROMETER SENSORS BASED SEMI-AUTOMATED RASH DRIVING & TRAFFIC SIGNAL JUMP DETECTION UNIT
84	RASH DRIVING DETECTION AND COLLISION (ACCIDENT) AVOIDANCE SYSTEM WITH STEERING CONTROLLED HEADLIGHT MECHANISM OF VEHICLES.
85	PHYSICAL ACTIVITY AND BEHAVIOUR RECOGNITION OF ONE-TWO YEAR OLD CHILD WITH REAL TIME DATA COLLECTION FOR DOCTORS OBSERVATION
86	HEALTH @ HOME – REMOTE MONITORING OF VITAL SIGNS
87	REMOTE CONTROL SYSTEM OF HIGH EFFICIENCY AND INTELLIGENT STREET LIGHTING USING ANDROID SERVER
88	DESIGNING A COMPLETE VEHICLE IMMOBILIZATION SYSTEM INTEGRATED WITH A PERSONALIZED ALERT MECHANISM
89	THEFT_ELECTRICITY ENERGY UNIT LIMITS PER SQFT LAND – RESOURCE MANAGEMENT RESPONSIBILITY PER FAMILY
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IDP012	AI BASED PILOT SYSTEM
IDP013	CONVOLUTIONAL NEURAL NETWORK IOT BASED TRAFFIC SIGN DETECTION AND VIOLATION CONTROL
ML	**IEEE LATEST MACHINE LEARNING BASED PROJECTTITLES**
IML001	CLOUD BASED FACE AND SPEECH RECOGNITION FOR ACCESS CONTROL APPLICATIONS

IML002	AUTOMATED EVALUATION OF COVID-19 RISK FACTORS COUPLED WITH REAL-TIME, INDOOR,PERSONAL LOCALIZATION DATAFOR POTENTIAL DISEASE IDENTIFICATION ,PREVENTION AND FACE MASK DETECTION
IML003	DEVELOPMENT OF A HAND HELD DEVICE FOR AUTOMATIC LICENSE PLATE RECOGNITION
IML004	RASPBERRY PI BASED WEARABLE READER FOR VISUALLY IMPAIRED PEOPLE WITH HAPTIC FEEDBACK
IML005	READER AND OBJECT DETECTOR FOR BLIND
IML006	LOW - COST VISUALLY SERVOED TRACKED VEHICLE
IML007	DEVELOPMENT OF MULTI SECURE ACCESS - SMART SUITCASE SECURITY SYSTEM
IML008	FIRE ALARM SYSTEM FOR SMART CITIES USING EDGE COMPUTING
IML009	SMART DOOR UNLOCKING USING FACE RECOGNITION AND BLINK DETECTION
IML010	A WEARABLE, EEG - BASED MASSAGE HEADBAND FOR ANXIETY ALLEVIATION
IML011	VOICE CONTROLLED HOME AUTOMATION USING RASPBERRY PI
IML012	BIOMETRIC SYSTEM BASED ELECTRONIC VOTING MACHINE USING RASPBERRY PI
IML013	RASPBERRY PI BASED GLOBAL INDUSTRIAL PROCESS MONITORING THROUGH WIRELESS COMMUNICATION
IML014	SMART ROOMS FOR POWER SAVING USING VIDEO PROCESSING
IML015	RASPBERRY PI BASED VIDEO SURVEILLANCE SYSTEM FOR ADVANCE SECURITY
IML016	A NOVEL APPROACH FOR COMMUNICATION AMONG BLIND , DEAF AND DUMB PEOPLE
IML017	DETECTION OF VEHICLE MAXIMUM SPEED WITH AN INFRARED SENSOR BASED ON RASPBERRY PI 3 B+
IML018	A LOW COST WEB BASED REMOTE MONITORING SYSTEM WITH BUILT IN SECURITY FEATURE FOR VULNERABLE ENVIRONMENT
IML019	SIXTH SENSE DEVICE - RASPBERRY PI BASED GESTURAL INTERFACE
IML020	RASPBERRY PI BASED CRUISE CONTROL MECHANISM IN TRAFFIC SITUATION

VLSI 2025-2026

We segregate the VLSI projects by the following project genres:

- Back End Domains
- Front End Domains
- Tools

Back End Domains

The back-end domains in VLSI projects for final year correspond to the activities that aim to physically deploy the design that was earlier founded to sort any encountered problem or issue. It is here where several required hardware is

gathered and assembled. Some of the back-end domains-based project sub-genres are discussed below.

- Transistor Logic
- Lower Power VLSI
- Core Memories

Front End Domains

The front-end domains in VLSI projects for final year correspond to the activities that aim to find a solution for any encountered problem or issue. An improvised circuitry design is made as a solution to sort out any encountered issues in VLSI so that the outcome of the resultant IC is resistant to those already investigated issues. Some of the front-end domains-based project sub-genres are discussed below.

- Arithmetic Core
- Communications
- Testing
- Finite State Machines
- DSP Core
- Nano Technology

Tools

The tools used in the design of any VLSI are usually decided based on future utilization and the required outcome. Some of the tools used in VLSI projects for final year ECE are given below.

- H-Spice
- FPGA
- Xilinx Vivado
- Tanner EDA
- Cadence EDA
- QCA

- Xilinx ISE
- LT-Spice

Our VLSI project experts can implement and deliver VLSI projects from inception to simulation. We have an extensive VLSI project library for all ECE courses which guides students to choose VLSI oriented final year ECE projects.

S.NO	VLSI PROJECT TITLES 2025-2026	DOMAIN
TVMAFE493	**A HIGHLY SECURE FPGA-BASED DUAL-HIDING ASYNCHRONOUS-LOGIC AES ACCELERATOR AGAINST SIDE-CHANNEL ATTACKS** **Objective:** The main objective of this paper is to secure the data from side channel attacks by utilizing the Async-logic AES with less area and low energy. The dual rail hiding is used in vertical SCA and ZV compensated S-box are employed to hide the horizontal SCA.	COMMUNICATION
TVMAFE494	**AN OPTIMIZED M-TERM KARATSUBA-LIKE BINARY POLYNOMIAL MULTIPLIER FOR FINITE FIELD ARITHMETIC** **Objective:** The main aim of the project is to reduce the area complexity of multiplier over the delay. This will be applicable when the design needs finite number of inputs and outputs in operation.	ARITHMETIC CORE
TVMAFE495	**A NOVEL ULTRA-COMPACT FPGA-COMPATIBLE TRNG ARCHITECTURE EXPLOITING LATCHED RING OSCILLATORS** **Objective:** The main aim of this paper is to generate the true random numbers with less FPGA resources. It will be applicable when we introduce the LRO (Latched Ring Oscillators). The randomness and Metastability reduction are the added advantages.	COMMUNICATION
TVMAFE496	**A HIGH-THROUGHPUT VLSI ARCHITECTURE DESIGN OF CANONICAL HUFFMAN ENCODER** **Objective:** The idea of this paper is to reduce the time complexity over the existing standard Huffman encoder. This will be achieved using the splitting tree technique. High compression radio is added advantage of CHN.	COMMUNICATION
TVMAFE497	**TROT: A THREE-EDGE RING OSCILLATOR BASED TRUE RANDOM NUMBER GENERATOR WITH TIME-TO-DIGITAL CONVERSION** **Objective:** The main aim of this paper is to generate the true random numbers through 3 edge ring oscillators to increase the hardware security as well as increase the randomness of the output.	COMMUNICATION

TVMAFE489	**A LOW-POWER AND HIGH-ACCURACY APPROXIMATE MULTIPLIER WITH RECONFIGURABLE TRUNCATION** **Objective:** The main objective of this project is to design an approximate multiplier with high accuracy and dynamically truncate to maintain the required accuracy as per the user and to obtain power optimization.	DIP
TVMABE173	**DESIGN OF THREE STAGE DYNAMIC COMPARATOR WITH TAIL TRANSISTOR USING 20NM FINFET TECHNOLOGY FOR ADCS** **Objective:** The proposed design of Modified three-stage comparator by using the tail transistor has been implemented to achieve the lower leakage power consumption and reducing the short channel effects.	TRANSISTOR LOGIC
TVMABE179	**A RELIABLE LOW STANDBY POWER 10T SRAM CELL WITH EXPANDED STATIC NOISE MARGINS** **Objective:** The main objective of this paper is to implement LP10TSRAM in order to achieve lesser power dissipation.	CORE MEMORIES
TVMABE181	**LOW POWER 3-BIT ENCODER DESIGN USING MEMRISTOR** **Objective:** In this paper, 3-bit encoder using memristors is proposed. And this architecture is compared with 3-bit encoder using CMOS and PSEUDO NMOS Logic.	CORE MEMORIES
TVMABE182	**TWO-STAGE OTA WITH ALL SUBTHRESHOLD MOSFETS AND OPTIMUM GBW TO DC-CURRENT RATIO** **Objective:** In this paper, a two stage folded cascaded Operational Trans conductance Amplifier (OTA) is proposed. This Amplifier is operated under sub-threshold values of MOSFETS. This configuration of Amplifier reduces power consumption.	TRANSISTOR LOGIC
TVMABE115	**A THREE-STAGE COMPARATOR AND ITS MODIFIED VERSION WITH FAST SPEED AND LOW KICKBACK** **Objective:** This paper presents a three-stage comparator and its modified version to improve the speed and reduce the kickback noise. Compared to the traditional two-stage comparators, the three-stage comparator in this work has an extra amplification stage, which enlarges the voltage gain and increases the speed.	TRANSISTOR LOGIC
TVMABE118	**BTI AND SOFT-ERROR TOLERANT VOLTAGE BOOTSTRAPPED SCHMITT TRIGGER CIRCUIT** **Objective:** In this paper, a novel BTI resilient voltage bootstrapped Schmitt trigger (VB-ST) circuit with improved noise margin, leakage power and rail-to-rail voltage is proposed. An only NMOS transistor is used in the proposed VB-ST circuit, which helps to reduce the aging effect, especially	TRANSISTOR LOGIC

	Negative Bias Temperature Instability (NBTI) on the circuit.	
TVMABE119	**DESIGN OF TWO STAGE OPERATIONAL AMPLIFIER AND IMPLEMENTATION OF FLASH ADC** **Objective:** The aim of this paper is to implement a Flash ADC structure consists of a resistive ladder network, comparators, and the thermometer to a binary encoder. Encoder structure in this paper is implemented using 2:1 mux based on switch logic.	TRANSISTOR LOGIC
TVPGBE136	**LOW POWER, HIGH PERFORMANCE PMOS BIASED SENSE AMPLIFIER** **Objective:** In this paper, two proposed circuits of PMOS biased sense amplifier is implemented. A fast access time and low power dissipation are achieved with newly developed circuits of sense amplifier for low voltage supply.	LOW POWER
TVMABE112	**A LOW-POWER TIMING-ERROR-TOLERANT CIRCUIT BY CONTROLLING A CLOCK** **Objective:** In this project, clock-controlling technique in flip-flops to prevent timing errors is presented. Timing errors are detected and corrected by modifying the clock of flip-flop without changing the system clock with minimum logics.	LOW POWER
TVMABE121	**LOW-POWER RETENTIVE TRUE SINGLE-PHASE-CLOCKED FLIP-FLOP WITH REDUNDANT-PRECHARGE-FREE OPERATION** **Objective:** In this project, an energy-efficient retentive True Single-Phase-Clocked (TSPC) FF is proposed. With the employment of input-aware pre charge scheme, the proposed TSPC FF pre charge only when necessary. By adopting this technique, power consumption is minimized.	LOW POWER
TVPGBE121	**A VERY-LOW-VOLTAGE FREQUENCY DIVIDER IN FOLDED MOS CURRENT MODE LOGIC WITH COMPLEMENTARY N- AND P-TYPE FLIP-FLOPS** **Objective:** In this article, a static frequency divider based on Folded MOS Current Mode Logic (FMCML) is presented. The design is based on alternating FMCML flip-flops with complementary pMOS or nMOS input differential pairs since common-mode problems arise by using only one type of FMCML flip-flops.	TRANSISTOR LOGIC
TVPGBE122	**ACCURACY-CONFIGURABLE RADIX-4 ADDER WITH A DYNAMIC OUTPUT MODIFICATION SCHEME** **Objective:** In this project, Accuracy Configurable Radix-4 Adder with a Dynamic Output Modification Scheme is proposed. Approximate computing is an efficient approach for reducing computational costs. This method involves a trade-off between	TRANSISTOR LOGIC

	computational accuracy and the circuit's power consumption, delay, and area	
TVMABE130	**LOW POWER HIGH PERFORMANCE 4 BIT VEDIC MULTIPLIER IN 32NM** **Objective:** The main objective of this paper is to compare different adders in different configurations. So that we can choose better performance multiplier.	LOW POWER VLSI
TVMABE133	**NOVEL MEMRISTOR-BASED NONVOLATILE D LATCH AND FLIP-FLOP DESIGNS** **Objective:** The main objective of this paper is to develop the Latch and Flip flop using Memristor by that we can reduce the power consumption.	CORE MEMORIES
TVMATO860	**NOVEL TERNARY ADDER AND MULTIPLIER DESIGNS WITHOUT USING DECODERS OR ENCODERS** **Objective:** The main objective of this project is implementing the THA(Ternary half adder) & TMUL(Ternary multiplier) without using any ternary decoders, basic logic gates, or encoders to minimize the number of used transistors and improve the energy efficiency.	TRANSISTOR LOGIC
TVMABE122	**PERFORMANCE ANALYSIS OF FULL ADDER BASED ON DOMINO LOGIC TECHNIQUE** **Objective:** The main objective of this paper is to reduce the delay by using Domino logic in the full adder.	TRANSISTOR LOGIC
TVMABE60	**45NM CMOS 4-BIT FLASH ANALOG TO DIGITAL CONVERTER** **Objective:** The main objective of this paper is to reduce the power in ADC. The design of ADC describes an effective method to reduce area and power consumption.	LOW POWER VLSI
TVMABE72	**ANTI-PVT-VARIATION LOW-POWER TIME-TO-DIGITAL CONVERTER DESIGN USING 90-NM CMOS PROCESS** **Objective:** The major contribution of this work is the self-adjustment capability provided by the PVT detector and these codes are used to select the corresponding current-sinking path to reduce delay drift and achieve anti-PVT-variation performance.	TRANSISTOR LOGIC
TVMABE56	**ENERGY AND ERROR ANALYSIS FRAMEWORK FOR APPROXIMATE COMPUTING IN MOBILE APPLICATIONS** **Objective:** In this proposed work, three novel energy, delay and area-efficient full-swing hybrid CMOS adders were designed. The proposed adders are named approximate hybrid adders (AHA1, AHA2, AHA3), with a numeral at the end for the different designs.	TRANSISTOR LOGIC

TVMABE65	**VERY FAST, HIGH-PERFORMANCE 5-2 AND 7-2 COMPRESSORS IN CMOS PROCESS FOR RAPID PARALLEL ACCUMULATIONS** **Objective:** This paper presents the new design methodology for speed performance enhancement of 7 - 2 & 5-2 compressor structures. The compressor circuits are used in multipliers. Through this architecture, the delay will be less.	TRANSISTOR LOGIC
TVMABE174	**DESIGN OF HALF ADDER DOMINO CIRCUIT USING SLEEP AND TWIST-CONNECTED TRANSISTORS WITH DUAL KEEPER** **Objective:** In this paper, two circuits, namely Half Adder with twist-connected transistors based NOT (T-NOT) gate and Sleep Transistor (HTS) and Half Adder with T-NOT, Sleep Transistor, and Dual Keeper (HTSD) are presented, in order to achieve low power consumption and high speed.	LOW POWER
TVMABE175	**DESIGN AND OPTIMIZATION OF MIMO FILTER USING CURRENT CONVEYOR** **Objective:** In this project we are going to implement the circuit functions represent low pass filter (LPF), high pass filter (HPF) and band pass filter (BPF) function while taking different input and output port combinations.	TRANSISTOR LOGIC
TVMABE181	**LOW POWER 3-BIT ENCODER DESIGN USING MEMRISTOR** Objective: In this paper, 3-bit encoder using memristors is proposed. And this architecture is also compared with 3-bit encoder using CMOS and PSEUDO NMOS Logic.	CORE MEMORIES
TVMABE182	**TWO-STAGE OTA WITH ALL SUBTHRESHOLD MOSFETS AND OPTIMUM GBW TO DC-CURRENT RATIO** **Objective:** In this paper, a two stage folded cascaded Operational Trans conductance Amplifier (OTA) is proposed. This Amplifier is operated under sub-threshold values of MOSFETS. This configuration of Amplifier reduces power consumption.	TRANSISTOR LOGIC
TVPGBE70	**DOUBLE CURRENT LIMITER HIGH-PERFORMANCE VOLTAGE-LEVEL SHIFTER FOR IOT APPLICATIONS** **Objective:** The main objective of this work is to reduce power for Voltage level shifter. The proposed Current limiter circuit is designed using 130nm CMOS technology to perform the voltage level shifting from 0.15V to 1.25V.	LOW POWER
TVMABE50	**A LOW-POWER HIGH-SPEED SENSE-AMPLIFIER-BASED FLIP-FLOP IN 55 NM MTCMOS** **Objective:** The main objective of this work is to reduce the power and to increase the speed of the sense amplifier and the latch was designed with a glitch-free and contention-free. Thus, proposed SAFF is a good choice for replacing master-slave flip-	LOW POWER

	flop in digital systems.	
TVPGBE81	**DATA RETENTION BASED LOW LEAKAGE POWER TCAM FOR NETWORK PACKET ROUTING** **Objective:** The main objective of this paper is to reduce the leakage power for data retention based ternary content addressable memory and it can be reduced by using the continuous feature of mask data.	CORE MEMORIES
TVMABE113	**A NEW ENERGY-EFFICIENT AND HIGH THROUGHPUT TWO-PHASE MULTI-BIT PER CYCLE RING OSCILLATOR-BASED TRUE RANDOM NUMBER GENERATOR** **Objective:** In this project, new lightweight TRNG design is proposed to minimize the power wasted by the superfluous oscillations. Random bits are extracted from both phases of the slow ROs to increase the throughput and the fast RO is activated only during the narrow transition time difference between two symmetrically designed slow ROs.	TRANSISTOR LOGIC
TVMABE123	**RAPID LOW POWER VOLTAGE LEVEL SHIFTER UTILIZING REGULATED CROSS COUPLED PULL UP NETWORK** **Objective:** In this project, ultralow power and high-speed voltage Level shifter circuit is introduced. With the help of regulated cross-coupled structure in the pull up region, the power utilized by the circuit is considerably decreased and speed of the circuit is also increased.	LOW POWER
TVMABE124	**TIQ FLASH ADC WITH THRESHOLD COMPENSATION** **Objective:** In this paper, a threshold self-tune technique is utilized to stabilize the inverter threshold voltage against process and temperature deviations aiming in reduction of the sensitivity of TIQ comparator towards temperature variations. In this self-tuning topology, a DC feedback loop is utilized for self-correcting the inverter threshold voltage.	TRANSISTOR LOGIC
TVMAFE381	**DESIGN OF ULTRA-LOW POWER CONSUMPTION APPROXIMATE 4-2 COMPRESSORS BASED ON THE COMPENSATION CHARACTERISTIC** **Objective:** The main objective of this paper is to optimize area and power by implementing the approximate 4:2 compressor designs which can be used to design the multiplier along with ECM based on the compensation characteristics.	DIP
TVMAFE376	**DS2B: DYNAMIC AND SECURE SUBSTITUTION BOX FOR EFFICIENT SPEECH ENCRYPTION ENGINE** **Objective:** The main objective of this paper is to achieve the high throughput and security with Dynamic and secure	DSP

	substitution-box that possess high resistance against linear attack and differential attack which is to be used in a speech encryption application was realized on FPGA.	
TVMAFE111	**HIGH-SPEED AREA-EFFICIENT VLSI ARCHITECTURE OF THREE-OPERAND BINARY ADDER** **Objective:** In this paper, a high-speed area-efficient adder technique is proposed to perform the three operands binary addition for efficient computation of modular arithmetic used in cryptography and PRBG applications.	ARITHMETIC CORE
TVMAFE396	**APPROXIMATE PRUNED AND TRUNCATED HAAR DISCRETE WAVELET TRANSFORM VLSI HARDWARE FOR ENERGY-EFFICIENT ECG SIGNAL PROCESSING** **Objective:** The main objective of this paper is to reduce the area and delay, for this we are implementing the approximate HAAR discrete wavelet, approximate pruned HDWT which fulfills the R-peak ECG signal processing with high quality standard.	DSP
TVPGFE310	**VIRTEX 7 FPGA IMPLEMENTATION OF 256 BIT KEY AES ALGORITHM WITH KEY SCHEDULE AND SUB BYTES BLOCK OPTIMIZATION** **Objective:** The main objective of this paper is to improve the security by extending the cipher key size into 256-bit key AES algorithm and applied selective transformation for optimization.	COMMUNICATIONS
TVMAFE379	**DESIGN AND ANALYSIS OF APPROXIMATE COMPRESSORS FOR BALANCED ERROR ACCUMULATION IN MAC OPERATOR** **Objective:** The main objective of this paper is to reducing the energy consumption and to minimize the hardware costs of MAC-oriented signal processing algorithms.	ARITHMETIC CORE
TVMAFE383	**FAST BINARY COUNTERS AND COMPRESSORS GENERATED BY SORTING NETWORK** **Objective:** The main objective of this paper is to implement fast saturated binary counters based on sorting network to improve the efficiency of designs involving summation of multiple operands.	ARITHMETIC CORE
TVPGFE102	**RANDSHIFT: AN ENERGY-EFFICIENT FAULT-TOLERANT METHOD IN SECURE NON VOLATILE MAIN MEMORY** **Objective:** The main objective of this paper is to reduce the error rate and power in encrypted data encoded by the Advanced Encryption Standard. This paper is implemented with the randomness feature of AES encryption as well as rotational shift operation to tolerate hard faults in nonvolatile memory cells.	COMMUNICATIONS
TVMAFE115	**APPROXIMATE MULTIPLIER DESIGN USING NOVEL DUAL-STAGE 4:2 COMPRESSORS** **Objective:** The main aim of this paper is to improve the speed	ARITHMETIC CORE

	and reduce the area for compressor architecture. This paper presents two novel approximate 4:2 compressor architectures for reducing area, delay and power dissipation in multipliers in which more than two stages of cascaded compressors are required for partial product accumulation.	
TVMAFE390	**A NOVEL APPROXIMATE ADDER DESIGN USING ERROR REDUCED CARRY PREDICTION AND CONSTANT TRUNCATION** **Objective:** In this project, the 32 nm CNTFET-based Ternary Half Adder (THA) and Multiplier (TMUL) circuits use novel ternary unary operator circuits and implement two power supplies Vdd and Vdd/2 without using any ternary decoders, basic logic gates, or encoders to minimize the number of used transistors and improve the energy efficiency.	ARITHMETIC CORE
TVMAFE391	**INEXACT SIGNED WALLACE TREE MULTIPLIER USING REVERSIBLE LOGIC GATES** **Objective:** The main objective of this paper is to improve the accuracy and reduce the reversible logic realization metrics, we are implementing inexact Baugh-Wooley Wallace tree multiplier by using reversible logic for this we can find the applications in CNN and image processing.	ARITHMETIC CORE
TVMAFE400	**THE CONSTANT MULTIPLIER FFT** **Objective:** The main objective of this paper is to achieving the highest clock frequency and to reduce the area we are implementing the 4-parallel radix-25 Constant Multiplier FFT.	DSP
TVMAFE380	**DESIGN AND VERIFICATION OF 16 BIT RISC PROCESSOR USING VEDIC MATHEMATICS** **Objective:** The main objective of this paper is to reduce the area and power and to improve high speed by implementing the RISC with Vedic processor for smaller and simpler set of instructions.	DSP
TVMAFE382	**DESIGN OF VERY HIGH-SPEED PIPELINE FIR FILTER THROUGH PRECISE CRITICAL PATH ANALYSIS** **Objective:** The main objective of this paper is to get the maximum throughput, speed and reduction in area, delay; we are implementing the High-speed pipelined FIR filter through precise critical path analysis.	DSP
TVMABE135	**TRANSMISSION GATE-BASED 8T SRAM CELL FOR BIOMEDICAL APPLICATIONS** **Objective:** In this paper, a novel transmission gate based SRAM is designed for biomedical applications. By using this SRAM, the extra circuit required for the read operation can be reduced. Hence, the proposed SRAM provides better performance in	CORE MEMORIES

	terms of area and power.	
TVMABE129	**APPROXIMATE ADIABATIC LOGIC FOR LOW-POWER AND SECURE EDGE COMPUTING** **Objective:** This paper aims to implement a full adder sum circuit and carry circuit is designed using Energy-Efficient Secure Positive Feedback Adiabatic Logic (EE-SPFAL). Energy-Efficient Secure Positive Feedback Adiabatic Logic (EE-SPFAL) is an adiabatic logic family, which is suitable to design low power and secure adiabatic circuit. EE-SPFAL has uniform power consumption and is secure against Differential Power Analysis (DPA) based attacks.	LOW POWER
TVMAFE393	**DESIGN OF APPROXIMATE MULTIPLIER LESS DCT WITH CSD ENCODING FOR IMAGE PROCESSING** **Objective:** The main objective of this paper is to reduce the area, power by implementing the approximate multiplier less DCT architecture, which is presented by taking advantage of the correlation between adjacent pixels of images based on CSD encoding for image processing.	DIP
TVMAFE384	**FAST MAPPING AND UPDATING ALGORITHMS FOR A BINARY CAM ON FPGA** **Objective:** The main objective of this paper is to speed up the table makeup and reduce the energy consumption for the mapping and updating algorithms for a binary CAM on FPGA algorithm selects at most one layer of SRAM blocks for contents updating at any location rather than activating the entire memory blocks and ultimately consumes less energy during the update process.	CORE MEMORIES
TVMAFE378	**CONSTANT-TIME SYNCHRONOUS BINARY COUNTER WITH MINIMAL CLOCK PERIOD** **Objective:**The main objective of this paper is to reduce fan-out and improve the counting rate, for this we are implementing constant-time synchronous binary counter based on pre-scaling concept.	COMMUNICATIONS
TVMAFE394	**SAM: A SEGMENTATION BASED APPROXIMATE MULTIPLIER FOR ERROR TOLERANT APPLICATIONS** **Objective:** The main objective of this paper is to reduce the area and power consumption while maintaining the desired accuracy, we are introducing a novel technique to multiply two unsigned binary numbers through a Segmentation based Approximate Multiplier (SAM).	ARITHMETIC CORE

TVMAFE98	**THE MESOCHRONOUS DUAL-CLOCK FIFO BUFFER** Objective: This aim of this proposed work is to design a novel mesochronous dual-clock first-input–first-output (FIFO) buffer that can handle both clock synchronization and temporary data storage. Through this design, data is safely transferred on the receiver side of a mesochronous interface without being explicitly synchronized.	COMMUNICATIONS
TVMABE68	**DPL-BASED NOVEL TIME EQUALIZED CMOS TERNARY-TO-BINARY CONVERTER** **Objective:** The main theme of this work is to convert the 3-valued ternary input into a two-valued binary output. This circuit was designed with Double Pass transistor Logic (DPL) by using this logic design power and power delay product will be reduced.	LOW POWER
TVMABE169	**EFFECTIVE LOW LEAKAGE 6T AND 8T FINFET SRAM: USING CELLS WITH REVERSE-BIASED FINFETS, NEAR-THRESHOLD OPERATION, AND POWER GATING** **Objective:** The main objective of this project is to reduce the leakage current of the SRAM memory cells by using power-gating technique.	LOW POWER
TVPGFE302	**A HIGH-PERFORMANCE CORE MICRO-ARCHITECTURE BASED ON RISC-V ISA FOR LOW POWER APPLICATIONS** **Objective:** The main objective of this paper is to enhance the operation speed with the help of instruction set architecture. The multiplier and dividers are employed to perform both signed and unsigned operation with less area cost	COMMUNICATION
TVMAFE392	Low Error Efficient Approximate Adders for FPGAs Objective: The main objective of this paper is to design the error efficient two approximate adders for FPGAs.	ARITHMETIC CORE
TVMAFE398	**LOW-POWER MULTIPLEXER STRUCTURES TARGETING EFFICIENT QCA** **Objective:** The main aim of this paper is to implement mux architecture based on QCA in an efficient way and improve the performance of the design.	QCA
TVMAFE97	**SECURITY ENHANCEMENT OF INFORMATION USING MULTILAYERED CRYPTOGRAPHIC ALGORITHM** **Objective:** The main objective of this paper is to reduce the problem of data hacking by using the multilayer linear feedback shift register (LFSR) cryptographic technique. The cascaded multilayer cryptography is analyzed for improved data security and reducing power consumption.	COMMUNICATION

TVMAFE123	**BORROW SELECT SUBTRACTOR FOR LOW POWER AND AREA EFFICIENCY** **Objective:** The main objective of this work is to increase the speed of processors but the processing speed of subtraction is limited by the sequential borrow bit. To overcome this problem by proposing two architectures of modified borrow select subtractor that consume lower power with increased area efficiency.	ARITHMETIC CORE
TVMAFE91	**A HIGH-PERFORMANCE MULTIPLY-ACCUMULATE UNIT BY INTEGRATING ADDITIONS AND ACCUMULATIONS INTO PARTIAL PRODUCT REDUCTION PROCESS** **Objective:** The main objective of this paper is to implement a MAC architecture with Low power & reduced delay. The MAC unit was designed with mainly partial product generation and Accumulation units. Hence, the delay can be reduced by integrating a part of additions into the partial product reduction (PPR) process.	DSP CORE
TVMIFE01	**PERFORMANCE ANALYSIS OF WALLACE TREE MULTIPLIER WITH KOGGE STONE ADDER USING 15-4 COMPRESSOR** **Objective:** The main objective of this paper is to design a parallel prefix adder based Wallace tree multiplier using 15-4 compressors to get the better performance	ARITHMETIC CORE
TVMAFE450	**AREA EFFICIENT MULTILAYER ARITHMETIC LOGIC UNIT IMPLEMENTATION IN QUANTUM-DOT CELLULAR AUTOMATA** **Objective:** In this paper, a multilayer 1-bit ALU is proposed using full adder and multiplexer circuits. The proposed ALU design is having less area because of multilayer and delay is less compared to existing design.	QCA
TVMAFE456	**BINARY CODED DECIMAL SEVEN SEGMENT CIRCUIT DESIGNING USING QCA** **Objective:** In this paper decoder, circuit is proposed which is mainly used in seven segment displays. By taking into considerations of all the advantages of Quantum dot cellular automata the proposed seven-segment display performs better in all circumstances.	QCA
TVMABE157	**CARBON NANOTUBE FIELD EFFECT TRANSISTOR (CNTFET) AND RESISTIVE RANDOM ACCESS MEMORY (RRAM) BASED TERNARY COMBINATIONAL LOGIC CIRCUITS** **Objective:** The designs of ternary half adder & ternary half subtractor are evaluated while using Synopsis HSPICE simulation software with standard 32 nm CNTFET technology. Based on the obtained simulation results, the proposed designs show a	CORE MEMORIES

	significant reduction in the transistor count, decreased cell area, and lower power consumption. In addition, due to the participation of RRAM, the proposed designs have advantages in terms of non-volatility.	
TVMAFE464	**QCA BASED DESIGN OF COST-EFFICIENT CODE CONVERTER WITH TEMPERATURE STABILITY AND ENERGY EFFICIENCY ANALYSIS** **Objective:** The main aim of this paper is to implement code converters with reduced number on QCA cells in an efficient way and improve the performance of the design.	QCA

MATLAB IMAGE PROCESSING TITLES 2025-2026

S. NO	TITLES & OBJECTIVE	DOMAIN
TMMAAI220	**SMART AGRICULTURAL ROBOT FOR SPRAYING PESTICIDE BY USING IMAGE PROCESSING-BASED DISEASE CLASSIFICATION TECHNIQUE** **Objective:** This work presents an automatic disease classification and pesticide controller design based on Image Processing (IP) and Machine Learning (ML) techniques.	IMAGE PROCESSING
TMMAAI219	**ROAD SURFACE CLASSIFICATION BASED ON RADAR IMAGING BY USING CONVOLUTIONAL NEURAL NETWORK** **Objective:** This approach is proposed for classifying the road surface by analyzing the road surface images that was obtained using the imaging radars.	IMAGE PROCESSING
TMMAAI218	**IMAGE CLASSIFICATION OF RICE LEAF DISEASES BY USING RANDOM FOREST ALGORITHM** **Objective:** In this work, image classification is used to classify the data sets of rice leaf diseases like Brown Spot Rice disease (BSR) and Bacterial Leaf Blight disease (BLB) by making use of Random Forest Algorithm.	IMAGE PROCESSING
TMMAAI217	**DETECTION OF MULBERRY RIPENESS STAGES BY USING DEEP LEARNING MODELS** **Objective:** This study does the classification of mulberry fruit ripening stages by using Convolutional Neural Networks (CNNs) such as DenseNet, Inception-v3, ResNet-18, and AlexNet.	IMAGE PROCESSING
TMMAAI216	**COVID 19, PNEUMONIA, AND OTHER DISEASES CLASSIFICATION BY USING CHEST X-RAY IMAGES** **Objective:** This work proposes an alternative way of detecting the Covid-19 disease by using Convolutional Neural Networks based deep learning models to analyze the similar kind of ailments like Pneumonia.	IMAGE PROCESSING

TMMAAI215	**MOVING OBJECT DETECTION SYSTEM BASED ON THE MODIFIED TEMPORAL DIFFERENCE AND OTSU ALGORITHM** **Objective:** In this work, a combinational approach for moving object detection is proposed. Here, the difference in images are calculated by subtracting two input modified frames, at each pixel position.	IMAGE PROCESSING
TMMAAI214	**DESIGN AND EVALUATION OF A DEEP LEARNING ALGORITHM FOR EMOTION RECOGNITION** **Objective:** This paper attempts to make the emotion recognition, where seven different emotions such as happy, sad, neutral, angry, surprise, fear, and disgust are evaluated by using a Convolutional Neural Network.	IMAGE PROCESSING
TMMAAI213	**AUTOMATED BREAST MASS CLASSIFICATION SYSTEM USING DEEP LEARNING AND ENSEMBLE LEARNING IN DIGITAL MAMMOGRAM** **Objective:** Breast cancer (Malignant, Benign or Normal) classification systems are implemented in this work by using deep learning technologies such as Convolutional Neural Network (CNN).	IMAGE PROCESSING
TMMAAI212	**YOLO-BASED DEEP LEARNING FRAMEWORK FOR OLIVE FRUIT FLY DETECTION AND COUNTING** **Objective:** In this paper, we present a deep learning framework for detecting and counting the number of olive fruit flies by using the YOLO algorithm.	IMAGE PROCESSING
TMMAAI211	**PROSTATE CANCER DETECTION USING DEEP LEARNING AND TRADITIONAL TECHNIQUES** **Objective:** Prostate cancer is detected by using deep learning-based long short-term memory (LSTM) and Residual Net (ResNet - 101) to compare with non-deep learning classifiers such as Support Vector Machine (SVM), Gaussian Kernel, and k-nearest neighbor to prove the effectiveness of the proposed detection system.	IMAGE PROCESSING
TMMAAI210	**PRE-PROCESSING OF BREAST CANCER IMAGES TO CREATE DATASETS FOR DEEP-CNN** **Objective:** The main objective of this research is to propose effective image pre-processing methods to create datasets that can save computational time for the neural network and thereby improve accuracy and classification rates.	IMAGE PROCESSING
TMMAAI209	**IDENTIFICATION OF TOBACCO CROP BASED ON MACHINE LEARNING FOR A PRECISION AGRICULTURAL SPRAYER** **Objective:** In this work, comparison of Machine learning and Deep learning algorithms are done to classify whether the image is tobacco or not.	IMAGE PROCESSING
TMMAAI208	**ENHANCED YOLO V3 TINY NETWORK FOR REAL-TIME SHIP DETECTION FROM VISUAL IMAGE** **Objective:** The algorithm can be used in video surveillance to	IMAGE PROCESSING

	achieve the accurate classification and positioning of six types of ships (including ore carriers, bulk cargo carriers, general cargo ships, container ships, fishing boats, and passenger ships) by using the YOLOv3 algorithm.	
TMMAAI207	**ADAPTIVE FUSION OF MULTI-SCALE YOLO FOR PEDESTRIAN DETECTION** **Objective:** A pedestrian detection method based on the improved YOLOv3 algorithm is proposed.	IMAGE PROCESSING
TMMAAI206	**CLASSIFICATION OF ARAB ETHNICITY BASED ON FACE IMAGE BY USING DEEP LEARNING APPROACH** **Objective:** Our aim in this work is to create an Arab dataset with proper labeling of Arab sub-ethnic groups, and then classify these labels using deep learning approaches	IMAGE PROCESSING

MATLAB COMMUNICATION TITLES 2025-2026

S. NO	TITLES & OBJECTIVE	DOMAIN
TMMASP39	**REAL-TIME ECG R-PEAK DETECTION BY EXTREMUM SAMPLING** **Objective:** Detection of ECG R-peaks using extremities and sampling.	SIGNAL PROCESSING
TMMASP38	**A NOVEL METHOD OF QRS PEAK DETECTION USING TIME AND AMPLITUDE THRESHOLDS AND STATISTICAL FALSE PEAK ELIMINATION** **Objective:** Detection of QRS Peak using Time and Amplitude thresholding and elimination of false peaks through statistical analysis.	SIGNAL PROCESSING
TMMASP37	**DEVELOPMENT OF A NEW BIOMETRIC AUTHENTICATION METHOD BASED ON ECG SIGNALS** **Objective:** Extracting features through a new method known as Wave Modeling for the authentication of ECG Signals.	SIGNAL PROCESSING
TMMASP36	**ECG-BASED AUTHENTICATION USING EMPIRICAL MODE DECOMPOSITION AND SUPPORT VECTOR MACHINES** **Objective:** ECG Signals are De-noised through EMD and the support vector machines are used for classification.	SIGNAL PROCESSING
TMMASP35	**AUTOMATIC MODULATION CLASSIFICATION USING PRINCIPAL COMPOSITION ANALYSIS BASED FEATURES SELECTION** **Objective:** Classification of Modulation scheme using KNN and SVM and performing a comparative study between these two schemes. Then the features are selected based on Principal Composition Analysis.	SIGNAL PROCESSING

TMMAWS17	**LIFETIME IMPROVEMENT OF WIRELESS SENSOR NETWORK ENERGY AND DISTANCE PARAMETERS ON LEACH PROTOCOL** **Objective:** Improving the lifetime of nodes in a WSN through residual energy and distance rather than only on probabilities.	COMMUNICATION
TMMACO85	**RESEARCH ON LINEAR PRE-CODING ALGORITHM BASED ON 5G MOBILE COMMUNICATION TECHNOLOGY** **Objective:** Comparison of linear precoding algorithms such as MRT with existing ZF and MMSE.	COMMUNICATION
TMMACO84	**ENHANCED NEW CHANNEL ESTIMATION TECHNIQUE FOR 5G MIMO COMMUNICATION SYSTEMS** **Objective:** Developed a new channel estimation technique called M-Estimator for 5G MIMO systems.	COMMUNICATION
TMMACO83	**CLUSTERING ROUTING ALGORITHM FOR WIRELESS SENSOR NETWORK BASED ON MIXED STRATEGY GAME THEORY** **Objective:** Improving the node's lifetime in a WSN using Mixed Strategy Game Theory.	COMMUNICATION
TMMACO82	**ROLE OF MILLIMETER WAVE FOR FUTURE 5G MOBILE NETWORKS: ITS POTENTIAL, PROSPECTS, AND CHALLENGES** **Objective:** Verifying the role of mm-waves in future 5G networks.	COMMUNICATION
TMMAWS16	**CLUSTERING BASED ON WHALE OPTIMIZATION ALGORITHM FOR IOT OVER WIRELESS SENSOR NODES** **Objective:** Clustering of wireless sensor nodes using Whale Optimization Algorithm.	COMMUNICATION
TMMACO81	**QUEUING OVER EVER-CHANGING COMMUNICATION SCENARIOS IN TACTICAL NETWORKS** **Objective:** Clustering Queuing technique for ever-changing scenarios in tactical networks.	COMMUNICATION
TMMAWS13	**A NODE OVERHAUL SCHEME FOR ENERGY EFFICIENT CLUSTERING IN WIRELESS SENSOR NETWORKS** **Objective:** The main objective of this project is to use the USC-LEACH protocol to enhance the network lifetime and generate clusters of uniform size.	COMMUNICATION
TMPGCO38	**COVERT WIRELESS COMMUNICATION IN IOT NETWORK FROM AWGN CHANNEL TO THZ BAND** **Objective:** The primary idea is to improve covertness and decrease the SNR wall at Willie by actively modifying signals under the molecular absorption peaks in the THz spectrum.	COMMUNICATION
TMMASP32	**SPATIAL POLAR METRIC TIME-FREQUENCY DISTRIBUTION-BASED DOA ESTIMATION: COMBINING ESPRIT WITH MUSIC.** **Objective:** The main objective of this paper is to construct a time–frequency distribution by combining the major algorithms like	COMMUNICATION

	ESPRIT with MUSIC.	

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