

SPIRO PROJECTS



SPIRO

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Research & Development Program (RDP)

Final Year Academic Project (FAP) in Software and Embedded Technologies

Application Development Program (ADP)

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IEEE
PROJECT TITLES GUIDE

2015-2016

NS2 and NS3

TECHNOLOGY: NS2 and NS3					
DOMAIN : WIRED NETWORK					
S.NO	PROJECT CODE	PROJECT TITLE	APPLICATION	TECH NOLOGY	YEAR
1.	ITNWN01	COCOWA: A COLLABORATIVE CONTACT-BASED WATCHDOG FOR DETECTING SELFISH NODES	Detecting Malicious Nodes	NS2	2015
2.	ITNWN02	SERVICE COMPOSITION IN OPPORTUNISTIC NETWORKS: A LOAD AND MOBILITY AWARE SOLUTION	Find Opportunistic Networks		2015
3.	ITNWN03	MODELING AND SOLVING TCP INCAST PROBLEM IN DATA CENTER NETWORKS	Solving Incast Problem		2015
4.	ITNWN04	REPUTATION AGGREGATION IN PEER-TO-PEER NETWORK USING DIFFERENTIAL GOSSIP ALGORITHM	Aggregation of Trust Values	NS3	2015
5.	ITNWN05	AN EFFICIENT AND TRUSTWORTHY P2P AND SOCIAL NETWORK INTEGRATED FILE SHARING SYSTEM	P2P File Sharing		2015

TECHNOLOGY: NS2 and NS3					
DOMAIN: MANET					
S.NO	PROJECT CODE	PROJECT TITLE	APPLICATION	TECH NOLOGY	YEAR
1.	ITNMN01	A SECURE ADDRESSING SCHEME FOR LARGE-SCALE MANETS	Secure Allocation		2015
2.	ITNMN02	MAC-LAYER SELFISH MISBEHAVIOR IN IEEE 802.11 AD HOC NETWORKS: DETECTION AND DEFENSE	Selfish Misbehaviour Detection	NS2	2015
3.	ITNMN03	INTERFERENCE-BASED TOPOLOGY CONTROL ALGORITHM FOR DELAY-CONSTRAINED MOBILE AD HOC NETWORKS	Minimize Interferences		2015
4.	ITNMN04	INTERFERENCE PREDICTION IN MOBILE AD HOC NETWORKS WITH A GENERAL MOBILITY MODEL	Predict Interferences		2015
5.	ITNMN05	MOBILE-PROJECTED TRAJECTORY ALGORITHM WITH VELOCITY-CHANGE DETECTION FOR PREDICTING RESIDUAL LINK LIFETIME IN MANET	Distance Measurements	NS3	2015

TECHNOLOGY: NS2 and NS3					
DOMAIN : VANET					
S.NO	PROJECT CODE	PROJECT TITLE	APPLICATION	TECH NOLOGY	YEAR
1.	ITNVN01	REDUCING INTERFERENCES IN VANETS	VANET Communication	NS2	2015
2.	ITNVN02	ROFF: ROBUST AND FAST FORWARDING IN VEHICULAR AD-HOC NETWORKS	Multi-Hop Broadcasting		2015
3.	ITNVN03	SECURING WARNING MESSAGE DISSEMINATION IN VANETS USING COOPERATIVE NEIGHBOR POSITION VERIFICATION	Neighbour Position Verification		2015
4.	ITNVN04	SECURE AND PRIVACY PRESERVING PROTOCOL FOR CLOUD-BASED VEHICULAR DTNS	Prevent From Node Attacks	NS3	2015
5.	ITNVN05	MESSAGE AUTHENTICATION USING PROXY VEHICLES IN VEHICULAR AD HOC NETWORKS	Verification Of Messages		2015

TECHNOLOGY: NS2 and NS3

DOMAIN: COGNITIVE RADIO NETWORK

S.NO	PROJECT CODE	PROJECT TITLE	APPLICATION	TECHNOLOGY	YEAR
1.	ITNCN01	BRACER: A DISTRIBUTED BROADCAST PROTOCOL IN MULTI-HOP COGNITIVE RADIO AD HOC NETWORKS WITH COLLISION AVOIDANCE	Avoid Collision	NS2	2015
2.	ITNCN02	COGNITIVE RADIO-AWARE TRANSPORT PROTOCOL FOR MOBILE AD HOC NETWORKS	Channel Selection		2015
3.	ITNCN03	OPTIMAL RESOURCE ALLOCATION IN RANDOM ACCESS COOPERATIVE COGNITIVE RADIO NETWORKS	Spectrum Allocation		2015
4.	ITNCN04	PRIVACY-PRESERVING COLLABORATIVE SPECTRUM SENSING WITH MULTIPLE SERVICE PROVIDERS	Secure Spectrum Sensing	NS3	2015
5.	ITNCN05	AN ORDER OPTIMAL POLICY FOR EXPLOITING IDLE SPECTRUM IN COGNITIVE RADIO NETWORKS	Exploit Idle Spectrum		2015

TECHNOLOGY: NS2 and NS3
DOMAIN 5: NETWORK SECURITY

S.NO	PROJECT CODE	PROJECT TITLE	APPLICATION	TECHNOLOGY	YEAR
1.	ITNNS01	DYNAMIC ROUTING FOR DATA INTEGRITY AND DELAY DIFFERENTIATED SERVICES IN WIRELESS SENSOR NETWORKS	Wireless Sensor Network	NS2	2015
2.	ITNNS02	TRUST MANAGEMENT FOR DEFENDING ON-OFF ATTACKS	Access Control Policy		2015
3.	ITNNS03	PRIVACY-PRESERVING AND TRUTHFUL DETECTION OF PACKET DROPPING ATTACKS IN WIRELESS AD HOC NETWORKS	Wireless Ad-hoc Networks		2015
4.	ITNNS04	A DISTRIBUTED MULTI-CHANNEL MAC PROTOCOL FOR AD HOC WIRELESS NETWORKS	Resolving Congestion	NS3	2015
5.	ITNNS05	BEYOND SCALING LAWS: ON THE RATE PERFORMANCE OF DENSE DEVICE-TO-DEVICE WIRELESS NETWORKS	Wireless Networks		2015



MATLAB

Technology : MATLAB

Domain : IMAGE PROCESSING

S.NO	CODE	PROJECT TITLES	APPLICATION	YEAR
1.	IMP01	Remote Authentication via Biometrics: A Robust Video-Object Steganographic Mechanism Over Wireless Networks	STEGANOGRAPHY	2015
2.	IMP02	Compressed-Domain Ship Detection on Spaceborne Optical Image Using Deep Neural Network and Extreme Learning Machine	SATELLITE IMAGES	2015
3.	IMP03	Elaboration of Novel Image Processing Algorithm for Arcing Discharges Recognition on HV Polluted Insulator Model	SATELLITE IMAGES	2015
4.	IMP04	Face Recognition Across Non-Uniform Motion Blur, Illumination, and Pose	BIOMETRICS	2015
5.	IMP05	A Novel Active Learning Method in Relevance Feedback for Content-Based Remote Sensing Image Retrieval	IMAGE RETRIEVAL	2015
6.	IMP06	Deep Representations for Iris, Face, and Fingerprint Spoofing Detection	BIOMETRICS	2015
7.	IMP07	Fast and Adaptive Detection of Pulmonary Nodules in Thoracic CT Images Using a Hierarchical Vector Quantization Scheme	BIOMEDICAL	2015
8.	IMP08	Automated Vessel Segmentation Using Infinite Perimeter Active Contour Model with Hybrid Region Information with Application to Retinal Images	BIOMEDICAL	2015
9.	IMP09	Four-Class Classification of Skin Lesions With Task Decomposition Strategy	BIOMEDICAL	2015



10.	IMP10	Automatic Classification of Intracardiac Tumor and Thrombi in Echocardiography Based on Sparse Representation	BIOMEDICAL	2015
11.	IMP11	Adaptive Co-Segmentation of Pheochromocytomas in CECT Images Using Localized Level Set Models	BIOMEDICAL	2015
12.	IMP12	Segmentation-Based Image Copy-Move Forgery Detection Scheme	SEGMENTATION	2015
13.	IMP13	High Capacity Reversible Data Hiding in Encrypted Images by Patch-Level Sparse Representation	STEGANOGRAPHY	2015
14.	IMP14	Unsupervised Detection of Earthquake-Triggered Roof-Holes From UAV Images Using Joint Color and Shape Features	SATELLITE	2015
15.	IMP15	Traffic Sign Detection via Graph-Based Ranking and Segmentation Algorithms	SEGMENTATION	2015
16.	IMP16	Localization of license plate number using Dynamic image processing techniques and Genetic algorithms	RECOGNITION	2014
17.	IMP17	A Novel Joint Data-Hiding and Compression Scheme Based on SMVQ and Image Inpainting	STEGANOGRAPHY	2014
18.	IMP18	Tampering Detection in Compressed Digital Video Using Watermarking	STEGANOGRAPHY	2014
19.	IMP19	Image Quality Assessment for Fake Biometric Detection: Application to Iris, Fingerprint, and Face Recognition	BIOMETRICS	2014
20.	IMP20	Multimodal Medical Volumetric Data Fusion Using 3-D Discrete Shearlet Transform and Global-to-Local Rule	BIOMEDICAL	2014
21.	IMP21	Lung Nodule Classification With Multilevel Patch-Based Context Analysis	BIOMEDICAL	2014
22.	IMP22	An Automatic Graph-Based Approach for Artery/Vein	BIOMEDICAL	2014

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		Classification in Retinal Images		
23.	IMP23	On Scanning Linear Barcodes From Out-of-Focus Blurred Images: A Spatial Domain Dynamic Template Matching Approach	IMAGE RESTORATION	2014
24.	IMP24	Remote Sensing Image Segmentation by Combining Spectral and Texture Features	SEGMENTATION	2014
25.	IMP25	Object-Oriented Shadow Detection and Removal From Urban High-Resolution Remote Sensing Images	IMAGE RESTORATION	2014
26.	IMP26	Fuzzy Clustering With a Modified MRF Energy Function for Change Detection in Synthetic Aperture Radar Images	SEGMENTATION	2014
27.	IMP27	Measures of Effective Video Tracking	SEGMENTATION	2014



MATLAB

TECHNOLOGY : MATLAB

DOMAIN : COMMUNICATION

S.NO	CODE	PROJECT TITLES	APPLICATION	YEAR
1.	ITCM01	ON THE SUM-RATE OF THE GAUSSIAN MIMO Z CHANNEL AND THE GAUSSIAN MIMO X CHANNEL	MIMO	2015
2.	ITCM02	IMPROVING PHYSICAL LAYER SECURITY FOR CRNS USING SINR-BASED COOPERATIVE BEAMFORMING	CRN	2015
3.	ITCM03	RELAY-SELECTION IMPROVES THE SECURITY-RELIABILITY TRADE-OFF IN COGNITIVE RADIO SYSTEMS	CRN-RELAY	2015
4.	ITCM04	EFFECT OF MUTUAL COUPLING ON THE CHANNEL CAPACITY OF MIMO SYSTEMS	MIMO	2015
5.	ITCM05	PERFORMANCE OF RECONFIGURABLE ANTENNAS IN A BELOW-DECKS ENVIRONMENT	MIMO-OFDM	2015
6.	ITCM06	GENERALIZATION OF ORTHOGONAL FREQUENCY DIVISION MULTIPLEXING WITH INDEX MODULATION	OFDM	2015

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7.	ITCM07	SPECTRAL EFFICIENCY OF OFDM SYSTEMS WITH RANDOM RESIDUAL CFO	OFDM	2015
8.	ITCM08	SUM RATE MAXIMIZATION OF AN MIMO TWO-WAY RELAY SYSTEM USING MSE DUALITY	MIMO-RELAY	2015
9.	ITCM09	PAPR ANALYSIS OF CLASS-III SLM SCHEME BASED ON VARIANCE OF CORRELATION OF ALTERNATIVE OFDM SIGNAL SEQUENCES	OFDM	2015
10.	ITCM10	OUTAGE PROBABILITY OF ENERGY HARVESTING RELAY-AIDED COOPERATIVE NETWORKS OVER RAYLEIGH FADING CHANNEL	RELAY	2015
11.	ITCM11	SPACE SHIFT KEYING FOR LOS COMMUNICATION AT MMWAVE FREQUENCIES	MIMO	2015
12.	ITCM12	LINEAR PRECODING FOR MIMO WITH LDPC CODING	MIMO-LDPC	2015



		AND REDUCED COMPLEXITY		
13.	ITCM13	PERFORMANCE EVALUATION OF MIMO OFDM SYSTEMS IN ON-SHIP BELOW-DECK ENVIRONMENTS	OFDM	2014
14.	ITCM14	TO COOPERATE OR NOT TO COOPERATE: AN OUTAGE ANALYSIS OF INTERFERENCE-LIMITED WIRELESS NETWORKS.	RELAY	2014
15.	ITCM15	POWER CONTROL AND ASYMPTOTIC THROUGHPUT ANALYSIS FOR THE DISTRIBUTED COGNITIVE UPLINK	CRN	2014
16	ITCM16	CHANNEL MODEL FOR SATELLITE COMMUNICATION LINKS ABOVE 10GHZ BASED ON WEIBULL DISTRIBUTION	MIMO	2014
17	ITCM17	ON THE OUTAGE PERFORMANCE OF SELECTION AMPLIFY-AND-FORWARD RELAYING	RELAY	2014



		SCHEME		
18	ITCM18	DYNAMIC SUBCARRIER COORDINATE INTERLEAVING FOR EAVESDROPPING PREVENTION IN OFDM SYSTEMS	OFDM	2014
19	ITCM19	ANALYSIS OF THE POWER AMPLIFIER NONLINEARITY ON THE POWER ALLOCATION IN COGNITIVE RADIO NETWORKS	CRN	2014
20	ITCM20	ON SIGNAL DETECTION IN THE PRESENCE OF WEAKLY CORRELATED NOISE OVER FADING CHANNELS	CRN	2014



MATLAB

TECHNOLOGY : MATLAB

DOMAIN : DIGITAL SIGNAL PROCESSING

S.NO	CODE	PROJECT TITLES	APPLICATION	YEAR
21	ITDSP01	FAIRNESS FOR NON-ORTHOGONAL MULTIPLE ACCESS IN 5G SYSTEMS	NOMA	2015
22	ITDSP02	SUM-RATE OPTIMAL NETWORK BEAMFORMING AND SUBCARRIER POWER ALLOCATION FOR MULTI-CARRIER SYNCHRONOUS TWO-WAY RELAY NETWORKS	MIMO-RELAY	2015
23	ITDSP03	MIMO-OTH RADAR: SIGNAL MODEL FOR ARBITRARY PLACEMENT AND SIGNALS WITH NON-POINT TARGETS	MIMO-OTH RADAR	2015
24	ITDSP04	LOW COST PRE-CODER DESIGN FOR MIMO AF TWO-WAY RELAY CHANNEL	MIMO-RELAY	2015
		TRANSCEIVER DESIGN FOR HYBRID ONE-WAY	RELAY	2014



25	ITDSP05	AND TWO-WAY RELAY NETWORKS		
26	ITDSP06	MIMO SYSTEMS WITH QUANTIZED COVARIANCE FEEDBACK	MIMO	2014
27	ITDSP07	INTERFERENCE ALIGNMENT WITH PARTIAL CSI FEEDBACK IN MIMO CELLULAR NETWORKS	MIMO	2014
28	ITDSP08	RANK-TWO BEAMFORMED SECURE MULTICASTING FOR WIRELESS INFORMATION AND POWER TRANSFER	MIMO	2014

POWER ELECTRONICS

TECHNOLOGY : MATLAB

DOMAIN : POWER ELECTRONICS

S.NO	CODE	TITLES	APPLICATION	YEAR
AC TO DC CONVERTERS (RECTIFIERS)				
1.	ITPW01	An integrated high-power-factor converter with ZVS transition	DC motors, HVDC transmission	2015
2.	ITPW02	High-frequency-fed unity power-factor AC-DC power converter with one switching per cycle	SMPS, Solar plant	2015
3.	ITPW03	High-power-factor rectifier using the modified sepic converter operating in discontinuous conduction mode	Drives application, HVDC transmission	2015
4.	ITPW04	Improved-power-quality bridgeless-converter-based multiple-output SMPS	switch mode power supply, DC motors	2015
5.	ITPW05	Power factor corrected zeta converter based improved power quality switched mode power supply	Switch mode power supply, HVDC transmission	2015
6.	ITPW06	Single-inductor dual-output buck-boost power factor correction converter	DC motors, HVDC transmission	2015
7.	ITPW07	A novel three-phase buck-boost AC-DC converter	Drives application	2014
DC TO DC CONVERTERS (CHOPPERS)				

8.	ITPW08	A fast-converging MPPT technique for photovoltaic system under fast-varying solar irradiation and load resistance	Traction application, DC motors, Solar plant	2015
9.	ITPW09	A high gain input-parallel output-series DC/DC converter with dual coupled inductors	Switch mode power supply, Solar plant	2015
10.	ITPW10	High gain zero voltage switching bidirectional converter with reduced number of switches	Traction application, SMPS	2015
11.	ITPW11	Hybrid transformer ZVS/ZCS DC-DC converter with optimized magnetic and improved power devices utilization for photovoltaic module applications	DC motors, Drives application	2015
12.	ITPW12	Isolated AC/DC offline high power factor single-switch led drivers without electrolytic capacitors	LED, industrial application	2015
13.	ITPW13	Non-isolated high step-up DC-DC converters adopting switched-capacitor cell	solar plant, DC motors	2015
14.	ITPW14	Performance of medium-voltage dc-bus pv system architecture utilizing high-gain DC-DC converter	Solar plant, DC drives application	2015
15.	ITPW15	Soft switching DC-DC converter for distributed energy sources with high step up voltage capability	Traction application, SMPS	2015

16.	ITPW16	A high voltage gain dc–dc converter integrating coupled-inductor and diode–capacitor techniques	HVDC application, industrial application	2014
17.	ITPW17	Soft-switching current-fed push–pull converter for 250-w ac module applications	SMPS, DC motors	2014
DC TO AC CONVERTERS (INVERTERS)				
18.	ITPW18	A new common-mode transformer less photovoltaic inverter	AC grid applications, AC motors	2015
19.	ITPW19	A quasi-unipolar SPWM full-bridge transformer less pv grid-connected inverter with constant common-mode voltage	TRACTION application, ac grid application	2015
20.	ITPW20	A single-phase cascaded multilevel inverter based on a new basic unit with reduced number of power switches	Medical application, sensitive applications	2015
21.	ITPW21	An interleaved high-power flyback inverter for photovoltaic applications	AC motor application ,ac grid application	2015
22.	ITPW22	Hybrid multicarrier modulation to reduce leakage current in a transformer less cascaded multilevel inverter for photovoltaic systems	Medical application, sensitive application	2015
23.	ITPW23	Hybrid switched-inductor converters for high step-up conversion	AC motor application , AC grid application	2015
24.	ITPW24	Optimum structures of proposed new cascaded multilevel inverter with reduced number of components	Medical and sensitive application	2015

25.	ITPW25	Zero-crossing disturbance elimination and spectrum analysis of single-carrier seven-level SPWM	Ac motor application , grid application	2015
26	ITPW26	A step-up switched-capacitor multilevel inverter with self voltage balancing	Renewable energy system, hybrid electric vehicles	2014
AC TO AC (CYCLOCONVERTER)				
27.	ITPW27	A bridgeless BHB ZVS-PWM AC-AC converter for high-frequency induction heating applications	Heating application ,high power ac drives	2015
28.	ITPW28	A dimming method for hot cathode fluorescent lamp using a resonant inverter operating at fixed switching frequency	Arc furnace, drying process	2015
MOTOR APPLICATIONS				
29.	ITPW29	PFC CUK converter-fed BLDC motor drive	Variable speed applications	2015
30.	ITPW30	A BL-CSC converter-fed BLDC motor drive with power factor correction	Low maintenance applications	2015
31.	ITPW31	Power factor correction in bridgeless-LUO converter-fed BLDC motor drive	Low maintenance applications	2015
32.	ITPW32	Deployment of an adaptable sensorless commutation technique on BLDC motor drives exploiting zero sequence voltage	Drives applications	2015
33.	ITPW33	A unity power factor bridgeless isolated CUK converter-fed brushless dc motor drive	low maintenance applications	2015
ELECTRICAL VEHICLE APPLICATIONS				

34.	ITPW34	Performance analysis of bi-directional DC-DC converters for electric vehicles	hybrid vehicles ,drives applications	2015
35.	ITPW35	A non isolated multiinput multioutput DC-DC boost converter for electric vehicle applications	Hybrid applications	2015

POWER ELECTRONICS (HARDWARE ONLY)

TECHNOLOGY : MATLAB				
DOMAIN : POWER ELECTRONICS				
S.NO	CODE	TITLES	KEY WORDS	YEAR
CONVERTERS AND INVERTERS				
1.	ITPOW01	Arm Based Induction Motor Fault Detection Using Wavelet And Support Vector Machine	ARM Processor, Fault Detection, Induction Motor, Support Vector Machine (SVM)	2015
2.	ITPOW02	Operational Characteristics Of Hybrid-Powered Three-Phase Induction Motor Via Synchronous And Photovoltaic Generators With MPPT Utilized By Synchronous Generator Automatic Voltage Regulator	Induction motor, photovoltaic, three phase induction motor	2015
3.	ITPOW03	Three Phase Inverter Using SVPWM Method For Solar Electric Vehicle	Electric Vehicle, Squirrel Cage Induction Motor, SVPWM Method Control	2015
4.	ITPOW04	Control System With Sinusoidal PWM Three-Phase Inverter With A Frequency Scalar Control Of Induction Motor	control system, PWM, induction motor, frequency scalar control, three-phase inverter	2015
5.	ITPOW05	Fuzzy Multiport Dc-Dc Interleaved Boost Converter Supplemented By Hybrid System Of Different Capacities PV And Battery Power System	Interleaved Boost Converter, Dc-Dc Converter, Mppt Tracking Controller, Photovoltaic system, induction motor	2015

6.	ITPOW06	Fuzzy Linear Current Booster For Solar Fed Dc Pumps	MPPT,Solar pumps	2015
7.	ITPOW07	Dc To Dc Converter With Low Input Current Ripple For Maximum Photovoltaic Power Extraction	Constant current converters,dc-to-dc converters, dc-to-dc power conversion, photovoltaic cells, and switched mode power supplies	2015
8.	ITPOW08	Single Phase Inverter For Wide Input Ranger For Solar Photovoltaic Application	DC-DC converter; Inverter, Unipolar PWM, Photovoltaic system	2015
9.	ITPOW09	Analog Controller For Home Application Of Photovoltaic System Using Interleaved Dc-Dc Converter And Single-Phase Inverter	Inter leaved converter,photovoltaic system	2015
10.	ITPOW10	A Reliable Single Phase Hybrid Solar Inverter With Anti-Islanding Protection	Solar Power Generation; Islanding; Grid-Connected PV Inverter.	2015

POWER SYSTEMS

TECHNOLOGY : MATLAB

DOMAIN : POWER SYSTEMS

1.	ITPS01	MPPT with single DC-DC converter and inverter for grid connected hybrid wind-driven PMSG-PV system	Generating stations, renewable energy power generations	2015
2.	ITPS02	A high step-up DC TO DC converter under alternating phase shift control for fuel cell power system	Hills stations, rural area power sources	2015
3.	ITPS03	Doubly fed induction generator for wind energy conversion systems with integrated active filter capabilities	Hybrid power applications ,renewable energy irrigation pumping	2015
4.	ITPS04	A maximum power tracking technique for grid-connected DFIG-based wind turbines	Home application power supply, renewable energy power generation	2015
5.	ITPS05	Power balance of cascaded H-bridge multilevel converters for large-scale photovoltaic integration	Ups circuits ,power grid applications	2015

6.	ITPS06	Current-fed soft-switching push-pull front-end converter based bidirectional inverter for residential photovoltaic power system	Xerox machines ,residential power systems	2014
POWER QUALITY IMPROVEMENT				
7.	ITPS07	High-gain resonant switched-capacitor cell-based DC/DC converter for offshore wind energy systems	Atomic station applications ,renewable energy irrigation pumping	2015
8.	ITPS08	An improved IUPQC controller to provide additional grid-voltage regulation as a STATCOM	Power quality improvement ,reactive power compensations , fact devices	2015
9.	ITPS09	Front-end converter with integrated PFC and DC-DC functions for a fuel cell UPS with DSP-based control	Magnetic levitation ,dc machines , Xerox machines	2015
10.	ITPS10	An enhanced voltage sag compensation scheme for DVR	FACTS devices , distribution power network	2015
11.	ITPS11	Predictive voltage control of transformer less DVR	Facts devices , compensation of voltage sag swell conditions	2015

12.	ITPS12	Integrated photovoltaic and dynamic voltage restorer system configuration	Power system network , renewable energy management	2015
13.	ITPS13	An integrated dynamic voltage restorer-ultra capacitor design for improving power quality of the distribution grid	Renewable energy management , fact devices	2015
14.	ITPS14	Operation and control of an improved performance interactive DSTATCOM	Distribution station , renewable power systems	2015
15.	ITPS15	LCL filter design and performance analysis for grid interconnected systems	PV cells, fuel cell ,wind turbines systems	2014

VLSI

S.NO	PROJECT CODE	TITLE	APPLICATION	YEAR
DOMAIN: AREA EFFICIENT				
1.	ITVL01	High-Speed and Energy-Efficient Carry Skip Adder Operating Under a Wide Range of Supply Voltage Levels	ULTRA SPEED NETWORK	2015
2.	ITVL02	An Efficient Constant Multiplier Architecture Based on Vertical-Horizontal Binary Common Sub-expression Elimination Algorithm for Reconfigurable FIR Filter Synthesis	RECONFIGURABLE FIR FILTER AND SDR SYSTEM	2015
3.	ITVL03	Trade-offs for Threshold Implementations Illustrated on AES	CRYPTOGRAPHY	2015
4.	ITVL04	A Modified Partial Product Generator for Redundant Binary	MODIFIED BOOTH	2015

		Multipliers	ENCODING AND RB PPG	
5.	ITVL05	Reviewing High-Radix Signed-Digit Adders	MULTIPLIER RECORDER	2015
6.	ITVL06	Critical-Path Analysis and Low-Complexity Implementation of the LMS Adaptive Algorithm	LEAST MEAN SQUARE ALGORITHMS	2014
DOMAIN: LOW POWER				
7.	ITVL07	Implementation of Sub threshold Adiabatic Logic for Ultralow-Power Application	ADIABATIC LOGIC AND LOW POWER	2015
8.	ITVL08	Aging-Aware Reliable Multiplier Design With Adaptive Hold Logic	POSITIVE BIAS TEMPERATURE INSTABILITY (PBTI)	2015
9.	ITVL09	Exact and Approximate Algorithms for the Filter Design Optimization Problem	FILTER DESIGN OPTIMIZATION PROBLEM	2015
10.	ITVL10	Ultralow-Energy Variation-Aware Design: Adder Architecture Study	STATISTICAL STATIC TIMING ANALYSIS (SSTA)	2015
11.	ITVL11	Fault Tolerant Parallel Filters	ERROR CORRECTION	2015

		Based on Error Correction Codes	CODES (ECCS)	
12.	ITVL12	Area-Delay-Power Efficient Carry-Select Adder	ARITHMETIC UNIT AND LOW-POWER DESIGN	2014
DOMAIN: HIGH SPEED				
13.	ITVL13	Variable Latency Speculative Han-Carlson Adder	MINECRAFT KOGGE STONE ADDER	2015
14.	ITVL14	A High-Performance FIR Filter Architecture for Fixed and Reconfigurable Applications	HIGH-PERFORMANCE FIR FILTER	2015
15.	ITVL15	Fast Sign Detection Algorithm for the RNS Moduli Set $\{2^{n+1} - 1, 2^n - 1, 2^n\}$	RESTRICTED MODULI SET AND SIGN DETECTION	2015
16.	ITVL16	Energy-Efficient Approximate Multiplication for Digital Signal Processing and Classification Applications	ENERGY EFFICIENCY AND MULTIPLICATION	2015
17.	ITVL17	An Optimized Modified Booth Recoder for Efficient Design of the Add- Multiply Operator.	MODIFIED BOOTH RECODING	2014

18.	ITVL18	Low-Latency Successive-Cancellation Polar Decoder Architectures Using 2-Bit Decoding.	OVERLAPPED SCHEDULING, PRE COMPUTATION AND 2-BIT DECODER	2014
DOMAIN: QCA TECHNOLOGY				
19.	ITVL19	Coplanar Full Adder in Quantum-Dot Cellular Automata via Clock-Zone-Based Crossover	CARRY FLOW ADDER	2015
20.	ITVL20	Synthesis of Majority/Minority Logic Networks	MAJORITY GATES, QUANTUM-DOT CELLULAR AUTOMATA (QCA)	2015
21.	ITVL21	Design and simulation of Turbo encoder in quantum-dot cellular automata	TURBO ENCODER	2015
22.	ITVL22	Design of Efficient Binary Comparators in Quantum-Dot Cellular Automata.	MAJORITY GATES AND QUANTUM DOT CELLULAR AUTOMATA (QCA)	2014
23.	ITVL23	Area-Delay Efficient Binary	NANO COMPUTING	2014

		Adders in QCA.		
DOMAIN: DESIGN with TEST BENCH				
24.	ITVL24	Reverse Converter Design via Parallel-Prefix Adders: Novel Components, Methodology, and Implementations	RESIDUE NUMBER SYSTEM (RNS)	2015
25.	ITVL25	ERSFQ 8-Bit Parallel Adders as a Process Benchmark	ZERO STATIC POWER DISSIPATION	2015
26.	ITVL26	$(4 + 2\log n)$ G Parallel Prefix Modulo- $(2^n - 3)$ Adder via Double Representation of Residues in $[0, 2]$	DIGITAL SIGNAL PROCESSING	2015
DOMAIN:EDA TOOL (TANNER TOOL)				
27.	ITVL27	Energy and Area Efficient Three-Input XOR/XNORs With Systematic Cell Design Methodology	COMPLETELY SYMMETRIC HIGH MODULARITY LOGIC GATE	2015
28.	ITVL28	Single-Supply 3T Gain-Cell for Low-Voltage Low-Power Applications	ACCESS SPEED, DATA RETENTION TIME	2015

29.	ITVL29	Recursive Approach to the Design of a Parallel Self-Timed Adder	ASYNCHRONOUS CIRCUITS AND BINARY ADDERS	2015
30.	ITVL30	Low-Power Variation-Tolerant Nonvolatile Lookup Table Design	ROM DESIGN	2015
31.	ITVL31	Finite State Machines With Input Multiplexing: A Performance Study	ATM TRANSACTIONS	2015
32.	ITVL32	Analysis and Design of a Low-Voltage Low-Power Double-Tail Comparator	HIGH-SPEED ANALOG- TO-DIGITAL CONVERTERS (ADCS)	2014
33.	ITVL33	Universal Set of CMOS Gates for the Synthesis of Multiple Valued Logic Digital Circuits	MULTI VALUED LOGIC	2014
DOMAIN: VLSI with MATLAB				
34.	ITVL34	A Generalized Algorithm and Reconfigurable Architecture for Efficient and Scalable Orthogonal Approximation of	IMAGE COMPRESSION	2015

		DCT		
35.	ITVL35	Design and Analysis of Approximate Compressors for Multiplication	IMAGE MULTIPLICATION	2015
36.	ITVL36	An Analytical Framework for Evaluating the Error Characteristics of Approximate Adders	IMAGE PROCESSING	2015
37.	ITVL37	Efficient coding scheme for fault Tolerant parallel filter	CRYPTOGRAPHY	2015
38.	ITVL38	Input-Based Dynamic Reconfiguration of Approximate Arithmetic Units for Video Encoding	VIDEO DECODER	2015
39.	ITVL39	Improved 8-Point Approximate DCT for Image and Video Compression Requiring Only 14 Additions	HEVC	2014
40.	ITVL40	High-Throughput Multi		2014

		standard Transform Core Supporting MPEG /H.264/VC-1 Using Common Sharing Distributed Arithmetic	MULTI -STANDARD TRANSFORM (MST)	
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FPGA

TECHNOLOGY: VLSI

HARDWARE: FPGA

DOMAIN: ROBOTICS

S.NO	PROJECT CODE	PROJECT TITLE	APPLICATION
1	ITVL41	FPGA BASED TOWARDS A NEW MODALITY-INDEPENDENT INTERFACE FOR A ROBOTIC WHEEL CHAIR	VIRTUAL DYNAMICS
2	ITVL42	FPGA BASED HUMAN-LIKE MOTION GENERATION AND CONTROL FOR HUMANOID'S DUAL ARM OBJECT MANIPULATION	HUMANOID ROBOT
3	ITVL43	FPGA BASED A ROBUST REAL-TIME VISION SYSTEM FOR AUTONOMOUS CARGO TRANSFER BY AN UNMANNED HELICOPTER	AUTOMATED CONTROL
4	ITVL44	FPGA BASED AN ULTRASONIC AND VISION-BASED RELATIVE POSITIONING SENSOR FOR MULTI ROBOT LOCALIZATION	ROBOT LOCALIZATION
5	ITVL45	FPGA BASED EFFECTS OF VIBROTACTILE FEEDBACK ON HUMAN LEARNING OF ARM	MOTION BASED ROBOT

		MOTIONS	
6	ITVL46	FPGA BASED AUTOMATIC LIGHTING SYSTEM USING MULTIPLE ROBOTIC LAMPS	AUTOMATION ROBOTS
TECHNOLOGY: VLSI HARDWARE: FPGA DOMAIN: ANDROID			
7	ITVL47	FPGA BASED SMART DIARY: A SMARTPHONE-BASED FRAMEWORK FOR SENSING, INFERRING AND LOGGING USER'S DAILY LIFE	ROBO STORAGE
TECHNOLOGY: VLSI HARDWARE: FPGA DOMAIN: AUTOMATION			
8	ITVL48	FPGA BASED AUTOMATION DETECTION OF SQUATS IN RAILWAY INFRASTRUCTURE	VISION DETECTION
9	ITVL49	FPGA BASED HAND-MOTION CRANE CONTROL USING RADIO FREQUENCY REAL-TIME LOCATION SYSTEM	MECHATRONICS
TECHNOLOGY: VLSI HARDWARE: FPGA DOMAIN: GSM & GPS			
10	ITVL50	FPGA BASED REAL-TIME GPS PRECISE POINT	

		POSITIONING-BASED PERCEPTIBLE WATER VSPOR ESTIMATION FOR RAINFALL MONITORING AND FORECASTING	SENSOR NETWORK
11	ITVL51	FPGA BASED A METHODOLOGY FOR DENOISING AND GENERATING BUS INFRASTRUCTURE DATA	LOCATION POSITIONING
12	ITVL52	FPGA BASED AUTOMATION DETECTION AND NOTIFICATION OF POTHOLES AND HUMPS ON ROADS TO AIDS DRIVERS	AUTOMATED ELECTRONICS
13	ITVL53	FPGA BASED AUTOMATIC AMBULANCE RESCUE SYSYTEM	EMERGENCY RESCUE
<p>TECHNOLOGY: VLSI</p> <p>HARDWARE: FPGA</p> <p>DOMAIN: CONSUMERELECTRONICS</p>			
14	ITVL54	FPGA BASED INTEGRATION OF MEMS INERTIAL AND PRESSURE SENSOR FOR VERTIAL TRAJECTORY DETERMINATION	PRESSURE HANDLER
15	ITVL55	FPGA BASED STEPPER MOTOR CONTROL	AUTOMATION
16	ITVL56	FPGA BASED MULTIPLE AXIS MOTION CONTROL CHIP	ROBO MECHANISM

TECHNOLOGY: VLSI

HARDWARE: FPGA

DOMAIN: LI-FI

17	ITVL57	FPGA BASED ECOFRIENDLY DATA TRANSMISSIONIN VISIBLE LIGHT COMMUNICATION	TRASMISSION FIDELITY
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EMBEDDED

RTOS

TECHNOLOGY: EMBEDDED				
DOMAIN : REAL TIME OPERATING SYSTEM				
S.NO	PROJECT CODE	Project title	Application	YEAR
1	ITROS01	An Assistive Navigation Framework for the Visually Impaired	Consumer applications	2015
2	ITROS02	Integrated Sensing Systems and Algorithms for Solid Waste Bin State Management Automation	Green house	2015
3	ITROS03	Performance Analysis and Modeling of Soil Moisture of Irrigation Cropland	Agriculture	2015
4	ITROS04	Automated Health Alerts Using In-Home Sensor Data for Embedded Health Assessment	Bio-medical	2015
5	ITROS05	Noninvasive Monitoring Device to Evaluate Sleep Quality at Mining Facilities	Security alert System	2015
6	ITROS06	Minimizing the Disruption of Traffic Flow of Automated Vehicles During Lane Changes	Automation	2015



7	ITROS07	Recommendations Supporting Situation Awareness in Partially Automated Driver Assistance Systems	Automation	2015
8	ITROS08	An Advanced Home Energy Management System Facilitated by Nonintrusive Load Monitoring With Automated Multiobjective Power Scheduling	Power management	2015
9	ITROS09	GPRS based Local Coverage-Aware Recovery Schemes for Smart Environments	Green house	2015
10	ITROS10	Optimal Smart Home Energy Management Considering Energy Saving and a Comfortable Lifestyle	Smart home	2015
11	ITROS11	Detection of Localized Bearing Faults in Induction Machines by Spectral Kurtosis and Envelope Analysis of Stator Current	Production industry	2015
12	ITROS12	An optimization of low cost and high efficient comorbidities patient monitor	Biomedical	2015
13	ITROS13	Global health care for self-assistive medibox and preventive medicine	Biomedical	2015



MECHANISM

TECHNOLOGY: EMBEDDED				
DOMAIN : MECHANISM				
S.NO	PROJECT CODE	Project title	Application	YEAR
14	ITEM01	Three Dimensional Conveyer With Integrated Electrostatic Actuators	Smart Industry	2015
15	ITEM02	The Amphibious Vehicle For Sea And Seashore Monitoring	Smart Surveillance	2015
16	ITEM03	Voice Based Control And Monitor Of Intelligent Gear Mechanism	Automobile Industries	2015
17	ITEM04	High Reliable Glass Cleaning Robot Servant For Software Company	Domestic Robot	2015
18	ITEM05	Intelligent And High Efficient Car Parking In Shopping Mall	Automation	2015
19	ITEM06	Self-Analysis And Control Of Alcohol Detection System In Vehicles	Security System	2015
20	ITEM07	A Probabilistic Approach To High-Confidence Coconut Climbing Robot	Agriculture Robot	2015



21	ITEM08	Optimal Mechanism Design Of Shoe Polishing Machine	Super Droid Robots	2015
22	ITEM09	Hand-Motion Crane Control Using Radio Frequency Real-Time Location Systems	Ambient Intelligence	2015
23	ITEM10	Research On The Oil Tank Oil Dissipation System	Automobile Industry	2015
24	ITEM11	A Real Time Security System Using Hover Craft In Defense	Smart Surveillance	2015
25	ITEM12	An Innovative Grass Cutter Robot For Agriculture Field	Agriculture Robot	2015
26	ITEM13	Dynamic Vision Based Multilevel Car Parking System	Machine Vision	2015
27	ITEM14	Automatic Planning And Coverage Of Wall Painting Robot	Super Droid Robots	2015
28	ITEM15	Detection And Analysis Of High Rise Stationary Pipes	Swarm Robot	2015
29	ITEM16	Low Cost Row Guidance Seeding And Planting Robot	Agriculture Robot	2015
30	ITEM17	An Efficient Detection And Monitor Of Vehicle Side Stand Alert System	Safer Side	2015



31	ITEM18	Machine Vision Technique For Find Out Defect In Orange	Packing Industry	2015
32	ITEM19	Control Of A Snake Robot For Ascending And Descending Steps	Smart Surveillance	2015
33	ITEM20	Power Generation For Street Light Using Speed Breaker	Renewable Power Generation	2015
34	ITEM21	Intelligent Traffic Management System	Humanoid Robot	2015
35	ITEM22	High Efficient Parallel Two Way Conveyor Machine	Production Industry	2015
36	ITEM23	Sophisticated Smart Umbrella For Future Trends	Modern Trends	2015
37	ITEM24	Online High-Precision Probabilistic Localization Robotic Fish Using Visual And Inertial Cues	Seashore Monitoring	2015
38	ITEM25	Intelligent Cooperative Control System In Visual Welding Robot	Automation	2015
39	ITEM26	Energy Exchange Between Electric Vehicle Load And Wind Generating Utilities	Energy Management	2015
40	ITEM27	A New, Simple, Low-Cost, Modular Arrangement Of High Power Factor For Window And Wiper Mechanism	Automobiles	2015



41	ITEM28	Walking And Running Of The Quadruped Wall-Climbing Robot For Rescue	Super Droid Robots	2015
42	ITEM29	Automated Anesthesia Analyzing System Based On Microcontroller	Biomedical	2015
43	ITEM30	Modeling And Optimization Of Heat Exchanger Mechanism	Smart Home	2015

INTERNET OF THINGS

TECHNOLOGY: EMBEDDED				
DOMAIN : WEB BASED APPLICATION				
S.NO	PROJECT CODE	Project title	APPLICATION	YEAR
44	ITIOT1	Alternation usage and predication of power by Embedded in an Internet-of-Things Platform	Energy management	2015
45	ITIOT2	Iot Platform Based On Integration Of patient Body Health Sensing And Tele Medicine System	Bio Medical	2015
46	ITIOT3	An Analysis of patients RFID Authentication Schemes for Internet of Things in Healthcare Environment	Biometric security	2015



47	ITIOT4	A complete Enriched Clinical hygienic Enabling Deployment in Heterogeneous Healthcare Environments using IOT	Bio Medical	2015
48	ITIOT5	A Novel Method for Fault Detection of Three Phase Transmission Lines by Wide-Area Voltage Measurements in IOT	Energy management	2015
49.	ITIOT6	Behavior Rule Specification-Safety Based on patient and instrument Systems in IOT	Bio Medical	2015
50.	ITIOT7	Implementation of a Wireless Health Acquisition System for IEEE 802.15.4 (ZigBee) Applications based on IOT	Bio Medical	2015
51.	ITIOT8	RFID based Advanced Technology for security in smart homes using IOT	Smart home	2015
52.	ITIOT9	Monitoring Of Human HealthCondition With Less Power Smart Transmission Mechanism Based On IOT	Bio Medical	2015
53.	ITIOT10	An Anonymous Authentication Scheme for theft vehicles and easy Plugin charging for Electric Vehicles	Automation	2015
54.	ITIOT11	Reliable measurement for Analog Metering system Using Image Processing Technic	Energy Management	2015
55.	ITIOT12	Optimization of Renewable Energy Sources and Energy StorageSystems in Islanded Micro grids withIOT	Renewable Energy Management	2015
56.	ITIOT13	The implementation of Nonintrusive Power Supply Design for Self-Powered Sensor Networks in the Smart Grid to detect fault from AC Power Line	Automation	2015



57	ITIOT14	Implementation of Smart Sensor Interface for water quality monitoring in industry using IOT	Green house	2014
58	ITIOT15	Implementation of WSN for industrial parameter monitoring based on Internet of Things (IOT)	Automobiles Industries	2014
59.	ITIOT16	IOT based vehicle license plate recognition system	Security system	2014
60.	ITIOT17	Internet based monitoring and Control Oil Reservoirs	Automation	2014
61.	ITIOT18	IOT Based Weather Report	Green house	2014
62.	ITIOT19	Patient Health Management System with IOT	Bio Medical	2014
63.	ITIOT20	An ant+ protocol based health care system	Bio Medical	2015
64.	ITIOT21	Multi-hop wban construction for healthcare IOTSystems	Wireless communication	2015
65.	ITIOT22	Powering the IOT: storage-less and converter-less energy harvesting	Energy Management	2015



RASPBERRY PI

TECHNOLOGY: EMBEDDED				
DOMAIN : RASPBERRY PI				
S.NO	PROJECT CODE	Project title	APPLICATION	YEAR
66	ITRAP01	Artificial Agents to Support Driver by raspberry pi	Automation	2015
67	ITRAP02	comprehensive research study of the detection of traffic signs by raspberry pi	Smart Surveillance	2015
68	ITRAP03	Artificial Steering Feel Is To Synthesize Steering Feedback in Vehicle by Raspberry Pi	Automobiles	2015
69	ITRAP04	Visual tracking in image streams acquired by static cameras based on change detection by raspberry pi	Image processing	2015
70.	ITRAP05	An Approach of Data loss recovery in wireless sensor network in Structural Monitoring by raspberry-pi	Machine vision	2015
71.	ITRAP06	Advanced metering infrastructure (AMI) to improve system observabilityThrough raspberry -pi	Energy Management	2015
72.	ITRAP07	Future Infrastructure-Less Self-Organizing Traffic Information System By Raspberry -Pi	Smart monitoring	2015
73.	ITRAP08	Location-Based Services (Lbs) For Road-Network Aware Trajectory Integrate With Raspberry - Pi	Smart monitoring	2015
74.	ITRAP09	Assistive technologies for blind people to describe Indoor sensing by raspberry-pi	Domestic Application	2015
75.	ITRAP10	Hybrid model based on Color, Shape and Motion Detection for Video Surveillance by raspberry-pi	Smart Surveillance	2015



76.	ITRAP11	An internet of things approach for motion detection Using raspberry pi	Security system	2015
77.	ITRAP12	From RGB led laboratory to servomotor control with Websockets and as educational tool	Automobiles Industries	2015
78.	ITRAP13	Raspberry pi based global industrial process Monitoring through wireless communication	Automobiles Industries	2015

LIFI

TECHNOLOGY: EMBEDDED				
DOMAIN : LIFI				
S.NO	PROJECT CODE	PROJECT TITLE	APPLICATIONS	YEAR
79	ITLI01	Ecofriendly data transmission in visible Light communication	Go-Green	2015
80.	ITLI02	Smart home technologies using visible light communication	Automation	2015
81.	ITLI03	A visible light communication link protection mechanism for smart factory	Security system	2015
82.	ITLI04	An Indoor Broadband Broadcasting System Based on VLC	Domestic Application	2015
83.	ITLI05	Separate Dimming Controlling and Data Transmission for an Indoor Visible Light Communication System	Automation	2015
84.	ITLI06	Indoor MIMO Visible Light Communications: Novel Angle Diversity Receivers for Mobile Users	Wireless communication	2015

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85.	ITLI07	Experimental Biomedical ECG Signal Transmission Using VLC	Bio-Gadgets	2015
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POWER LINE COMMUNICATION

TECHNOLOGY: EMBEDDED				
DOMAIN : POWER LINE COMMUNICATION				

S.NO	PROJECT CODE	PROJECT TITLE	APPLICATIONS	YEAR
86	ITPC01	Next Generation Narrowband(Under500khz Power Line Communications(Plc) Standards	Energy management	2015
87.	ITPC02	User Friendly Monitoring System For Residential Pvsystembased On Low Cost Power Line Communication	smart monitoring	2015
88.	ITPC03	Design And Implementation of smart home control systems based on wireless sensor networks and power line communications	Home auotmation	2015
89.	ITPC04	Review on Design and Implementation of Energy Efficient Domestic LED Lighting System	Smart Home	2015
90	ITPC05	Efficiently Operating Wireless Nodes Powered by Renewable Energy Sources	Renewable energy management	2015
91	ITPC06	Cooperative JammingAided Robust Secure Transmission for Wireless Informationand Power Transfer in MISO Channels	Energy management	2015



WIRELESS POWER TRANSFER

TECHNOLOGY: EMBEDDED				
DOMAIN : WIRELESS POWER TRANSFER				
S.NO	PROJECT CODE	PROJECT TITLE	APPLICATIONS	YEAR
92.	ITWT01	A Mobile Platform For Wireless Charging And Data Collection In Sensor Networks	Ambient intelligent	2015
93.	ITWT02	Wireless Sensor Networks With Rf Energy Harvesting:A Contemporary Survey	Energy management	2015
94.	ITWT03	Implementation Of Wireless Power Transfer System For Smart Home Applications	Autoamtion	2015
95.	ITWT04	Primary side power flow control of wireless power transfer for electric vehicle charging	Automobile industries	2015
96.	ITWT05	Wireless Fleet Charging SystemforElectric Bicycles	Automobile industries	2015
97	ITWT06	Harvested Power Wireless Sensor Network Solutionfor Disaggregated Current Estimationin Large Buildings	Energy Management	2015



98	ITWT07	Employing Load Coils for Multiple Loadsof Resonant Wireless Power Transfer	Energy Management	2015
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TELEMATICS

TECHNOLOGY: EMBEDDED				
DOMAIN : TELEMATICS				
99.	ITTEL01	Photosensitive security system for theft Detection and control using gsm technology	Security system	2015
100.	ITTEL02	A survey of positioning techniques and Location based services in wireless networks	Smart Surveillance	2015
101.	ITTEL03	Smartphone centric ambient assisted living platform for patients suffering from co-morbidities monitoring	Bio-medical	2015
102	ITTEL04	A Smart Sensor Network For Sea Water Quality Monitoring	Seashore monitoring	2015
103	ITTEL05	Smartphone Devices forAcquisition and Elaboration of Bio signals	Biometric security	2015
104	ITTEL06	Real-Time Human Mobility StateClassification using gsm technology	Smart Surveillance	2015
105	ITTEL07	A Smart Phone-Based Pocket Fall Accident Detection, Positioning, and Rescue System	Automation	2015



ROBOTICS

TECHNOLOGY: EMBEDDED				
DOMAIN :ROBOTICS				
S.NO	PROJECT CODE	PROJECT TITLE	Application	YEAR
106.	ITROB01	Online High-Precision Probabilistic Localization of Robotic Fish Using Visual and Inertial Cues	Seashore monitoring	2015
107	ITROB02	A Sensor-Based Dual-Arm Tele-Robotic System	Humanoid Robot	2015
108	ITROB03	High-Speed Automated Manipulation of Micro objects Using a Two-Fingered Micro hand	Super Droid Robot	2015
109	ITROB04	Control of a Snake Robot for Ascending and Descending Steps	Smart Surveillance	2015
110	ITROB05	Occlusion-Based Cooperative Transport with a Swarm of Miniature Mobile Robots	Swarm Robot	2015
111	ITROB06	Towards a New Modality-Independent Interface For a Robotic Wheelchair	Swarm Robot	2015
112	ITROB07	Human-Like Motion Generation and Control for Humanoid's Dual Arm Object Manipulation	Super Droid Robot	2015



113	ITROB08	Robot Guided Crowd Evacuation	Swarm Robot	2015
114	ITROB09	Bio-inspired Group Modeling and Analysis for Intruder Detection in Mobile Sensor/Robotic Networks	Mobile Robot	2015
115	ITROB10	Efficient Road Detection and Tracking for Unmanned Aerial Vehicle	Automation	2015
116	ITROB11	A Robust Real-Time Vision System for Autonomous Cargo Transfer by an Unmanned Helicopter	Machine vision	2015
117	ITROB12	An Ultrasonic and Vision-Based Relative Positioning Sensor for Multi robot Localization	Machine vision	2015
118	ITROB13	Artificial Co-Drivers as a Universal Enabling Technology for Future Intelligent Vehicles and Transportation Systems	Automation	2015
119	ITROB14	Robust Control of a Miniature Ducted-Fan Aerial Robot for Blind Navigation in Unknown Populated Environments	Domestic Robot	2015
120	ITROB15	Effects of Vibrotactile Feedback on Human Learning of Arm Motions	Super Droid Robot	2015
121.	ITROB16	Wireless Underwater Mobile Robot System Based on Zigbee	Seashore monitoring	2014
122.	ITROB17	A Compact and Compliant External Pipe-Crawling Robot	Mobile Robot	2014
123.	ITROB18	An Online Stair-Climbing Control Method for a Transformable Tracked Robot	Swarm robot	2014



124.	ITROB19	Probability-Based Location Aware Design and On-Demand Robotic Intrusion Detection System	Smart Surveillance	2014
125.	ITROB20	Towards a New Modality-Independent Interface For a Robotic Wheelchair	Articulated Robot	2014
126.	ITROB21	A Study on Sinus-Lifting Motion of a Snake Robot With Sequential Optimization of a Hybrid System	Smart Surveillance	2014
127.	ITROB22	Mobile Robot Localization Using the Phase Of Passive UHF RFID Signals	Terrestrial Monitoring	2014
128.	ITROB23	Vision-Based Robust Path Reconstruction For Robot Control	Machine vision	2014
129.	ITROB24	Automatic lighting system using multiple Robotic lamps	Automation	2014

ANDROID

TECHNOLOGY: EMBEDDED				
DOMAIN : ANDROID				
S.NO	PROJECT CODE	PROJECT TITLE	APPLICATIONS	YEAR
130.	ITANR01	Smart Diary: A Smartphone-Based Framework for Sensing, Inferring, and Logging Users' Daily Life	Ambient Intelligence	2015



131.	ITANR02	Smart PDR: Smartphone-Based Pedestrian Dead Reckoning for Indoor Localization	Smart monitoring	2015
132.	ITANR03	Android Security: A Survey of Issues, Malware Penetration and Defenses	Smart Surveillance	2015
133.	ITANR04	A Software Based Sonar Ranging Sensor for Smart Phones	Seashore monitoring	2015
134.	ITANR05	Wearable system for monitoring of oxygen Concentration in breath based On optical sensor	Bio-Gadget	2015
135.	ITANR06	Automated Health Alerts Using In-Home Sensor Data for Embedded Health Assessment	Bio-Gadget	2015
136.	ITANR07	Novel Sampling Algorithm for Human Mobility-Based Mobile Phone Sensing	Smart Phone	2015
137.	ITANR08	Estimating Users' Home and Work Locations Leveraging Large-Scale Crowd-Sourced Smartphone Data	Ambient Intelligence	2015
138.	ITANR09	Estimation of Respiratory Rate from Photoplethysmographic Imaging Videos Compared to Pulse Oximeter	Bio-Gadget	2015
139.	ITANR10	Acquisition and Elaboration of Cardiac Signal in Android Smartphone Devices	Medical	2014



140.	ITANR11	A Novel Electric Vehicle for Smart Indoor Mobility	Automation	2014
141.	ITANR12	Unobtrusive Sensing and Wearable Devices For Health Informatics	Biometric Sensor	2014

AUTOMATION

TECHNOLOGY: EMBEDDED				
DOMAIN : AUTOMATION				
142.	ITAM01	Primary-Side Power Flow Control of Wireless Power Transfer for Electric Vehicle Charging	Energy management	2015
143.	ITAM02	On Curve Negotiation: From Driver Support to Automation	Automation	2015
144.	ITAM03	Energy Exchange Between Electric Vehicle Load and Wind Generating Utilities	Energy management	2015
145.	ITAM04	Multi objective Vehicle Routing Problems With Simultaneous Delivery and Pickup	Ambient Intelligence	2015
146.	ITAM05	Diffraction-Compensating Coded Aperture for Inspection in Manufacturing (PIPE CRAWLING)	Power plant industries	2015
147.	ITAM06	Energy-Efficient Control Strategies for Machine Tools With Stochastic Arrivals	Energy management	2015



148.	ITAM07	An Automated Test Generation Technique for Software Quality Assurance	Automation	2015
149.	ITAM08	Path-Constrained Motion Analysis: An Algorithm to Understand Human Performance on Hydraulic Manipulators	Super droid Robot	2015
150.	ITAM09	A Practical Wireless Attack on the Connected Car and Security Protocol for In-Vehicle CAN	Automobile Industries	2015
151.	ITAM10	Central Electric-Motoring-Assisted Handling Control System for Electrified Vehicles	Energy Management	2015
152.	ITAM11	Detection of U.S. Traffic Signs	Ambient Intelligence	2015
153.	ITAM12	Designing Steering Feel for Steer-by-Wire Vehicles Using Objective Measures	Ambient Intelligence	2015
154.	ITAM13	Wireless Sensor Networks for Condition Monitoring in the Railway Industry: A Survey	Super droid Robot	2015
155.	ITAM14	Integrated Indoor Navigation System for Ground Vehicles With Automatic 3-D Alignment and Position Initialization	Automobiles Industries	2015
156.	ITAM15	Constrained Global Path Optimization for Articulated Steering Vehicles	Swarm Robot	2015
157.	ITAM16	Automatic Detection of Squats in Railway Infrastructure	Swarm Robot	2014
158.	ITAM17	Receiver Autonomous Integrity Monitoring of GNSS Signals for Electronic Toll Collection	Automotive	2014
159.	ITAM18	Guest Editorial Special Section on Building Automation, Smart Industry Robot	Super droid Robot	2014



160.	ITAM19	Text Detection and Recognition on Traffic Panels From Street-Level Imagery Using Visual Appearance	Machine Vision	2014
161.	ITAM20	An Industrial Perspective on Wireless Sensor Networks - A Survey of Requirements, Protocols, and Challenges	Automation	2014
162.	ITAM21	Implementation of CAN bus in an autonomous All-Terrain Vehicle	Automobile Industries	2014
163.	ITAM22	Hand-Motion Crane Control Using Radio Frequency real-Time Location Systems	Super droid Robot	2014
164.	ITAM23	An Iranian License Plate Recognition System Based on Color Features	Security System	2014
165.	ITAM24	Portable Roadside Sensors for Vehicle Counting, Classification, and Speed Measurement	Machine Vision	2014

WIRELESS

TECHNOLOGY: EMBEDDED				
DOMAIN : WIRELESS				
S.NO	PROJECT CODE	PROJECT TITLE	Application	YEAR
166.	ITWI01	Implementation of a Wireless ECG Acquisition SoCfor IEEE 802.15.4 (ZigBee) Applications	Bio-Gadgets	2015

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167.	ITWI02	A Zigbee-Based Animal Health Monitoring System	Smart Monitoring	2015
168.	ITWI03	Design and Application of a VOC-Monitoring System Based on a ZigBee Wireless Sensor Network	Smart Monitoring	2015
169.	ITWI04	Charging Time Characterization for Wireless RF Energy Transfer	Energy Management	2015
170.	ITWI05	Real-time Fire Detection for Video Surveillance Applications using a Combination of Experts based on Color, Shape and Motion	Image Processing	2015
171.	ITWI06	C-Band SAR Backscatter Evaluation of 2008 Gallipoli Forest Fire	Green House	2015
172.	ITWI07	ZigBee-Based Communication System for Data Transfer Within Future Micro grids	Energy Management	2015
173.	ITWI08	A Blind Zone Alert System Based on Intra-Vehicular Wireless Sensor Networks	Automation	2015
174.	ITWI09	Wireless Power Transfer for Electric Vehicle Applications	Energy Management	2015
175.	ITWI10	Investigating Wireless Charging and Mobility of Electric Vehicles on Electricity Market	Automobile Industries	2015



176.	ITWI11	A Low Cost, Highly Scalable Wireless Sensor Network Solution to Achieve Smart LED Light Control for Green Buildings	Greenhouse	2015
177.	ITWI12	A Low-Power Wireless Sensor for Online Ambient Monitoring	IOT	2015
178.	ITWI13	Passive and Semi-Passive Wireless Temperature and Humidity Sensors Based on EPC Generation-2 UHF Protocol	Smart Monitoring	2015
179.	ITWI14	An Approach of Reliable Data Transmission With Random Redundancy for Wireless Sensors in Structural Health Monitoring	Bio-Gadgets	2015
180.	ITWI15	Wireless Resource Allocation in Next Generation Healthcare Facilities	Bio Security	2015
181.	ITWI16	Channel and Energy Modeling for Self-Contained Wireless Sensor Networks in Oil Reservoirs	Power plant Industries	2014
182.	ITWI17	WSN-Based Smart Sensors and Actuator for Power Management in Intelligent Buildings	Energy Management	2014
183.	ITWI18	Data Reduction and Energy Sustenance In Multi sensor Networks for Landslide	Terrestrial	2014



		Monitoring	Monitoring	
184.	ITWI19	A Reconfigurable Smart Sensor Interface for Industrial WSN in IoT Environment	Smart Monitoring	2014
185	ITWI20	A System for Automatic Notification and Severity Estimation of Automotive Accidents	Ambient intelligence	2014
186	ITWI21	Wireless Sensor Network Based Smart Home: Sensor Selection, Deployment and Monitoring	Smart Monitoring	2014

GSM & GPS

TECHNOLOGY: EMBEDDED				
DOMAIN : GSM & GPS				
S.NO	PROJECT CODE	PROJECT TITLE	Application	YEAR
187	ITGP01	Understanding Taxi Service Strategies From Taxi GPS Traces	Ambient Intelligence	2015
188	ITGP02	Real-Time GPS Precise Point Positioning-Based Perceptible Water Vapor Estimation for Rainfall Monitoring and Forecasting	Green Machine	2015

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189	ITGP03	Traffic Sensing Through Mat Lab	Image Processing	2015
190.	ITGP04	Implementing Intelligent Traffic Control System for Congestion Control, Ambulance Clearance, And Stolen Vehicle Detection	Smart Surveillance	2015
191	ITGP05	Energy-Efficient Models of Sustainable Location for vehicle Inspection Station with Emission Constraints	Automotive	2015
192	ITGP06	Energy-Efficient Real-Time Human Mobility State Classification Using Smart phones	Energy management	2015
193	ITGP07	Sensed: Sensing Driving Conditions to Estimate Vehicle Speed in Urban Environments	Automotive	2015
194	ITGP08	Automatic detection and notification of potholes and humps on roads to aid drivers	Ambient Intelligence	2015
195.	ITGP09	A Smart Phone-Based Pocket Fall Accident Detection, Positioning, and Rescue System	Bio-Gadgets	2015
196	ITGP10	A Methodology for Denoising and Generating Bus Infrastructure Data	Automotive	2015
197	ITGP11	Miniature Folded Patch GPS Antenna for Vehicle Communication Devices	Automobile Industries	2015
198	ITGP12	Road-Network Aware Trajectory Clustering: Integrating Locality, Flow, and Density	Domestic	2015
199.	ITGP13	A Compressive Sensing Approach to	Machine Vision	2015



		Describe Indoor Scenes for Blind People		
200.	ITGP14	Indoor Tracking: Theory, Methods, and Technologies	Machine Vision	2015
201.	ITGP15	Fall Detection Based on Body Part Tracking	Bio-Gadgets	2015
202.	ITGP16	A New Payment System for Enhancing Location Privacy of Electric Vehicles	Automation	2014
203.	ITGP17	A System for Automatic Notification and Severity Estimation of Automotive Accidents	Automation	2014
204.	ITGP18	Automated Irrigation System Using a Wireless Sensor Network and GPRS Module	Agriculture	2014
205.	ITGP19	Rail Component Detection, Optimization, and Assessment for Automatic Rail Track Inspection	Smart Monitoring	2014
206.	ITGP20	Automatic ambulance rescue system	Automation	2014



CONSUMER ELECTRONICS

TECHNOLOGY: EMBEDDED				
DOMAIN : CONSUMER ELECTRONICS				
S.NO	PROJECT CODE	PROJECT TITLE	Application	YEAR
207	ITCE01	Synergistic Change Detection and Tracking	Defense	2015
208	ITCE02	Unknown Tag Identification in Large RFID Systems: An Efficient and Complete Solution	Defense	2015
209.	ITCE03	Global Sensor Deployment and Local Coverage-Aware Recovery Schemes for Smart Environments	Ambient Intelligence	2015
210.	ITCE04	Use of an Inertial/Magnetic Sensor Module for Pedestrian Tracking During Normal Walking	Smart surveillance	2015
211.	ITCE05	Integration of MEMS Inertial and Pressure Sensors for Vertical Trajectory Determination	Automotive	2015
212.	ITCE06	PRLS-INVES: A General Experimental Investigation Strategy for High Accuracy and Precision in Passive RFID Location Systems	Smart surveillance	2015
213.	ITCE07	Accurate and Efficient Object Tracking based on Passive RFID	Smart surveillance	2015
214.	ITCE08	Proximity Sensing Based on a Dynamic Vision Sensor for Mobile Devices	Ambient intelligence	2015
215.	ITCE09	A Rule-based Service Customization Strategy for Smart Home Context-aware Automation	Smart home	2015
216.	ITCE10	Exploiting Passive RFID Technology for Activity Recognition in Smart Homes	Automation	2015

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217.	ITCE11	A Health-IOT Platform based on the Integration of intelligent Packaging, Bio-Sensor and Intelligent Medicine Box	Bio gadgets	2014
218.	ITCE12	Assistive clothing pattern recognition For visually impaired people	Machine vision	2014
219	ITCE13	Modeling and Detecting Aggressiveness From Driving Signals	Automotive	2014
220.	ITCE14	Prototype of a fingerprint based licensing system for driving	Biometric security	2014

ELECTRICAL

TECHNOLOGY: EMBEDDED

DOMAIN : ELECTRICAL

S.NO	PROJECT CODE	Project title	Applications	YEAR
221.	ITEEEE01	Real-Time Energy Storage Management for Renewable Integration in Microgrid: An Off-Line Optimization	Energy management	2015
222.	ITEEEE02	Data-Stream-Based Intrusion Detection System for Advanced Metering Infrastructure in Smart Grid: A Feasibility Study	Defense	2015
223.	ITEEEE03	WSN-Based Smart Sensors and Actuator for Power Management in Intelligent Buildings	Energy management	2015

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224.	ITEEEE04	Distributed Smart-Home Decision-Making in a Hierarchical Interactive Smart Grid Architecture	Energy management	2015
225.	ITEEEE05	Condition Monitoring of an Induction Motor Stator Windings Via Global Optimization Based on the Hyperbolic Cross Points	Automobile Industries	2015
226.	ITEEEE06	Last-Meter Smart Grid Embedded in an Internet-of-Things Platform	IOT	2015
227.	ITEEEE07	Energy Management in the Decentralized Generation Systems Based on Renewable Energy—Ultra capacitors and Battery to Compensate the Wind/Load Power Fluctuations	Energy management	2015
228.	ITEEEE08	Real-Time Price Based Home Energy Management Scheduler	Energy scheduler	2015
229.	ITEEEE09	An Anonymous Authentication Scheme for Plugin Electric Vehicles Joining to Charging/Discharging Station in Vehicle-to-Grid (V2G) Networks	Automotive	2015
230.	ITEEEE10	Extraction of Energy Information From Analog Meters Using Image Processing	Smart monitoring	2015
231.	ITEEEE11	A Control Architecture to Coordinate Renewable Energy Sources and Energy Storage Systems in Islanded Micro grids	Energy management	2015



232.	ITEEE12	A Nonintrusive Power Supply Design for Self-Powered Sensor Networks in the Smart Grid by Scavenging Energy From AC Power Line	Automotive	2015
233.	ITEEE13	Power Control in AC Isolated Micro grids With Renewable Energy Sources and Energy Storage Systems	Energy management	2015
234.	ITEEE14	A Novel Method for Fault Location of Transmission Lines by Wide-Area Voltage Measurements Considering Measurement Errors	Energy management	2015
235.	ITEEE15	A Constraint-Aware Heuristic Path Planner for Finding Energy-Efficient Paths on Uneven Terrains	Energy management	2015
236.	ITEEE16	Integrated Planning for Transition to Low-Carbon Distribution System With Renewable Energy Generation and Demand Response	Renewable Energy management	2014
237.	ITEEE17	Optimal Scheduling of Critical Peak Pricing Considering Wind Commitment	Renewable Energy management	2014



BIOMEDICAL

TECHNOLOGY: EMBEDDED				
DOMAIN : BIOMEDICAL				
S.NO	PROJECT CODE	PROJECT TITLE	Application	YEAR
238	ITBIO01	PSMPA: Patient Self-Controllable and Multi-Level Privacy-Preserving Cooperative Authentication in Distributed m-Healthcare Cloud Computing System	Bio-Gadgets	2015
239.	ITBIO02	An Implantable RFID Sensor Tag toward Continuous Glucose Monitoring	Bio-Gadgets	2015
240.	ITBIO03	Self-Powered Monitoring of Repeated Head Impacts Using Time-Dilation Energy Measurement Circuit	Biometric Sensor	2015
241.	ITBIO04	Current and Future Challenges in Point-of-Care Technologies: A Paradigm-Shift in Affordable Global Healthcare With Personalized and Preventive Medicine	Health Care Management	2015
242.	ITBIO05	Intelligent Disease Self-Management with Mobile Technology	Bio-Gadgets	2015
243.	ITBIO06	Smartphone-Centric Ambient Assisted Living Platform for Patients Suffering from Co-Morbidities Monitoring	Ambient Intelligence	2015
244.	ITBIO07	An Analysis of RFID Authentication Schemes for Internet of Things in Healthcare Environment Using Elliptic Curve Cryptography	Bio Security	2015



245.	ITBIO08	A Precise RFID Indoor Localization System with Sensor Network Assistance	Smart home	2015
246.	ITBIO09	Real-Time Closed-Loop Control of Human Heart Rate and Blood Pressure	Smart monitoring	2015
247.	ITBIO10	Evaluation of Pressure Bed Sensor for Automatic SAHS Screening	Ambient Intelligence	2015
248.	ITBIO11	The Development of a Blood Leakage Monitoring System for the Applications in Hemodialysis Therapy	Health care Management	2015
249.	ITBIO12	System Architecture for Low-Power Ubiquitously Connected Remote Health Monitoring Applications With Smart Transmission Mechanism	Energy Management	2015
250.	ITBIO13	Automated Detection of Sleep Apnea and Hypopnea Events Based on Robust Airflow Envelope Tracking in the Presence of Breathing Artifacts	Bio Gadgets	2015
251.	ITBIO14	Behavior Rule Specification-Based Intrusion Detection for Safety Critical Medical Cyber Physical Systems	Biometric Security	2015
252.	ITBIO15	A Semantically Enriched Clinical Guideline Model Enabling Deployment in Heterogeneous Healthcare Environments	Health care Management	2015
253.	ITBIO16	Integrated Circuits and Electrode Interfaces for Noninvasive Physiological Monitoring	Medical	2014
254.	ITBIO17	A Survey on Wireless Body Area Networks: Technologies and Design Challenges	Wireless Monitoring	2014



255	ITBIO18	Potential for Health Screening Using Long-Term Cardiovascular Parameters Measured by Finger Volume-Oscillometry: Pilot Comparative Evaluation in Regular and Sleep-Deprived Activities	Biometric Security	2014
256.	ITBIO19	Patient Health Management System using e-Health Monitoring Architecture	Online Health monitoring	2014

Education Partners:



Technologies and Domain used:

IEEE 2015, Java, J2ee, Android, Dot net, PHP, Embedded, Vlsi, Matlab, VB, Net working, Data Mining, Image Processing, Cloud Computing, Mobile Computing, Multimedia, Network Security, Soft Engg, Grid Computing, Automation, Robotics, Communication, RF, Zigbee, Blue tooth, GSM/GPS/GPRS, Power Electronics & Systems, Electrical, DSP, RTOS, Bio metrics, etc.

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