
NCCT

PROMISE FOR THE BEST PROJECTS

DSP & MATLAB PROJECTS

IEEE PROJECTS

in various Domains

Latest Projects, 2009 - 2010

#109, 2nd Floor, Bombay Flats, Nungambakkam High Road

Nungambakkam High Road, Chennai – 600034

Above IOB, Next to ICICI

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EMBEDDED SYSTEM PROJECTS

Microcontrollers | VLSI | DSP | Matlab | Robotics

MATLAB PROJECTS

- A Hybrid Time Divisioning Scheme for Power Allocation in DMT-Based DSL Systems
- A New Dual-Channel Mac Protocol for Multihop Ad Hoc Networks
- A Performance Study of Mobile Handoff Delay in IEEE 802.11-Based Wireless Mesh Networks
- Adaptive Routing in Dynamic Ad Hoc Networks
- Analysis of IEEE 802.11e for Delay Sensitive Traffic In Wireless Lans
- Backup Path Set Selection in Ad Hoc Wireless Network using Link Expiration Time
- Call Admission Control Optimization in Wimax Networks
- Code Shift Keying Impulse Modulation for Uwb Communications
- Contention-Based Qos Mac Mechanisms for Vbr Voip In Ieee 802.11e
- A Medium Access Control Scheme for Tdd-Cdma Cellular Networks With Two-Hop Relay Architecture
- A New Parameter for Uwb Indoor Channel Profile Identification

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- Novel Channel Interference Reduction In Optical Synchronous Fsk-Cdma Network using a Data-Free Reference
- Performance Improvement in Wireless Networks using Cross-Layer Arq
- Performance of Optical Burst Switched Networks for Grid Applications
- Power Allocation and Scheduling for Ultra-Wideband Wireless Networks
- An Efficient Data Extraction Mechanism for Mining Association Rules From Wireless Sensor Networks
- An FPGA-Based Architecture for Real Time Image Feature Extraction
- An Improving Model Watermarking with Iris Biometric Code
- Automatic Recognition of Exudative Maculopathy using Fuzzy Cmeans Clustering and Neural Networks
- Reconstruction of Underwater Image by Bispectrum
- Hierarchical Contour Matching for Dental X-Ray Radiographs
- Robust Image Watermarking Based On Multiband Wavelets and Empirical Mode Decomposition
- Image Segmentation using Iterative Watershedding Plus Ridge Detection
- Real-Time System for Monitoring Driver Vigilance

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- Robust Dwt-Svd Domain Image Watermarking:Embedding Data in all Frequencies
- Optimized Software Implementation of A Full-Rate IEEE 802.11a Compliant Digital Base band Transmitter on a Digital Signal Processor
- Active Noise Cancellation with a Fuzzy Adaptive Filtered-X Algorithm
- Design and Analysis of Bit Interleaved Coded Space-Time Modulation
- Non-Symmetric Decompanding for Improved Performance of Companded ofdm Systems
- Implementation of IEEE 802.11 a Wlan Baseband Processor
- Signal Adaptive Subband Decomposition for Adaptive Noise Cancellation
- A Performance Study of Mobile Handoff Delay in IEEE 802.11-Based Wireless Mesh Networks
- Analysis of IEEE 802.11e for Delay Sensitive Traffic in Wireless Lans
- Backup Path Set Selection in Ad Hoc Wireless Network using Link Expiration Time
- Performance Improvement in Wireless Networks using Cross-Layer ARQ
- Fingerprint Recognition System for FingerCode based
- Face Recognition System

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- **Speech Recognition System for isolated words**
- **Recursive Gabor Filtering for 1D and 2D signals**
- **Photorefractive Simulator System for calculating the vector space-charge field induced by the Photorefractive effect**
- **DCT-based Watermarking for grayscale images**
- **Wavelet-based Watermarking grayscale images**
- **Iris Recognition System**
- **Speaker Recognition System**
- **Adaptive Equalizer**
- **Advance Digital Signal Processing Graphics Compression**
- **Audio Signal Processing**
- **Channel Tracking using using Kalman Filter**
- **Deriving Intrinsic Images from Image Sequences**
- **Digit Recognition**
- **Effect of equalization on a QAM based modulation scheme**
- **Gesture Recognition**
- **High Performance Implementation of MPEG-1 Layer 3 Audio**
- **Human Hearing Threshold from EEG Signals using Neural Network**
- **Image and Sound Compression using Wavelet**

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- JPEG, motion compensation, MPEG-1, MPEG-2
- License plate Recognition / Number Plate recognition
- Power Spectrum Estimation Periodogram & Modified Periodogram
- Quadrature Amplitude Modulation (M-QAM Implementation)
- Recognition of Brain Tissues & Coloring of Magnetic Resonance Images
- Coding of stereoscopic images - wavelet domain techniques
- Compression, Predictive, Transform, Quantization
- Car Thefts Detection
- Content-Based Image Retrieval using the EMD algorithm
- Driving assistance system, Speed estimation by video camera installed in a car
- Efficient Surface Reconstruction From Noisy Data using Regularized Membrane Potentials - 2009
- An Entropy Interpretation of The Logarithmic Image Processing Model with Application To Contrast Enhancement - 2009
- Sparse Image Reconstruction for Molecular Imaging - 2009
- Phase Adaptive Super Resolution of Mammography Images using Complex Wavelets - 2009
- A Robust Hidden Markov Gauss Mixture Vector Quantizer for A Noisy Source - 2009

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- Composition of A De-warped and Enhanced Document Image From Two View Images - 2009
- Image Quality Assessment Based On Multi-scale Geometric Analysis - 2009
- Tomographic imaging of dynamic objects with the ensemble Kalman filter - 2009
- Clustering-based de-noising with Locally learned dictionaries - 2009
- Interactive natural image segmentation Via Spline regression - 2009
- A fast optimization transfer algorithm for image In-painting in wavelet domains - 2009
- Automatic Segmentation of Pulmonary Segments From Volumetric Chest CT Scans - 2009
- A hybrid geometric–statistical deformable model for automated 3-d segmentation in brain MRI - 2009
- Intelligent Thermo graphic diagnostic applied to Surge arresters: a new approach - 2009
- Cost-Effective Hidden Markov-Based Image Segmentation - 2009
- A Fast Multilevel Algorithm for Wavelet-Regularized Image Restoration - 2009
- Low Bit-Rate Image Compression Via Adaptive Down- sampling and Constrained Least Squares Up- Conversion - 2009

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- Morphological Background Detection and Enhancement of Images with Poor Lighting - 2009
- High-Fidelity Data Embedding for Image Annotation - 2009
- Gradient Estimation using Wide Support Operators - 2009
- Beam forming with a Maximum Negentropy Criterion - 2009
- A Comparison of the Squared Energy and Teager-Kaiser Operators for Short-Term Energy Estimation in Additive Noise - 2009
- Nonlinear Minimum Variance Estimation for Discrete-Time Multi-Channel Systems - 2009
- Idiolect extraction and generation for personalized speaking style modeling - 2009
- Analysis of Emotionally Salient Aspects of Fundamental Frequency for Emotion Detection - 2009
- Approximate signal reconstruction using non-uniform samples in fractional Fourier and linear canonical transform domains - 2009
- DSP for coherent single-carrier receivers - 2009
- Efficient Convex Relaxation Methods for Robust Target Localization by a Sensor Network using Time Differences of Arrivals - 2009
- Late reverberant spectral variance estimation based on a statistical model - 2009

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- A new delay less sub-band Adaptive filtering algorithm for active noise control systems - 2009
- An ensemble Speaker and Speaking environment modeling approach to robust speech recognition - 2009
- Observer-controller based digital PLL - 2009
- A 99-dB DR fourth-order delta–sigma modulator for 20-khz bandwidth sensor applications - 2009
- Illumination sensing in led lighting systems based on frequency division multiplexing - 2009
- Dual-band band-pass filter design using a novel feed scheme - 2009
- Instantaneous frequency rate estimation for high-order polynomial-phase signals - 2009
- Performance bound approximation for bearing estimation with bias correction - 2009
- A Blind I/Q Imbalance Compensation Technique for Direct-Conversion Digital Radio Transceivers contiguous spectrums - 2009
- Sampling theorems for signals from the union of finite-dimensional linear subspaces - 2009
- Reversible Re-sampling of integer signals - 2009
- Communication Coverage In Wireless Passive Sensor Networks - 2009
- Rayleigh Fading Networks: A Cross-Layer Way - 2009

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- Channel coding for high-speed links: a systematic Look at code performance and system simulation - 2009
- Finite-precision analysis of de-mappers and decoders for DPC-coded m-QAM systems - 2009
- Spectral correlation of a digital pulse stream modulated by a Cyclo-stationary sequence in the presence of timing jitter - 2009
- Training design for repetitive-slot-based CFO estimation in OFDM - 2009
- Efficient detection ordering scheme for MIMO Transmission using power control - 2009
- Novel probabilistic bounds on power level profile of Spectrally-encoded spread-time CDMA signals - 2009
- Near-space wide-swath radar imaging with Multi-aperture antenna - 2009
- Semi-analytic BER for PSK – 2009
- A Bridgeless PFC Boost Rectifier with Optimized Magnetic Utilization - 2009
- Analysis and Implementation of a Hybrid High-Power-Factor Three-Phase Unidirectional Rectifier - 2009
- Identification of Feasible Topologies for Multiple-Input DC–DC Converters - 2009
- Three-Mode Dual-Frequency Two-Edge Modulation Scheme for Four-Switch Buck–Boost Converter - 2009

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- **A Novel Self-Powered Supply for GCT Gate Drivers - 2009**
- **A Compensation Technique for Smooth Transitions in a Non-inverting Buck–Boost Converter - 2009**
- **Impact of EMC Filters on the Power Density of Modern Three-Phase PWM Converters - 2009**
- **Multiple-Load–Source Integration in a Multilevel Modular Capacitor-Clamped DC–DC Converter Featuring Fault Tolerant Capability - 2009**
- **Three-Level AC–DC–AC Z-Source Converter using Reduced Passive Component Count - 2009**
- **Digital Combination of Buck and Boost Converters to Control a Positive Buck–Boost Converter and Improve the Output Transients - 2009**
- **Simulation of Optimal Medium-Term Hydro-Thermal System Operation by Grid Computing - 2009**
- **An Integrated Approach for Optimizing Dynamic Transfer Limits at Hydro-Quebec - 2009**
- **A Filtering Technique for Three-Phase Power Systems - 2009**
- **An Adaptive Controller for the Shunt Active Filter Considering a Dynamic Load and the Line Impedance - 2009**
- **Selection of Optimal Location and Size of Multiple Distributed Generations by using Kalman Filter Algorithm - 2009**
- **Bewley Diagrams Revisited via Visualization - 2009**
- **An Improved UPFC Control for Oscillation Damping - 2009**

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- **A Wide-Band Multi-Port System Equivalent for Real-Time Digital Power System Simulators - 2009**
- **Frequency - Adaptive Power System Modeling for Multi - scale Simulation of Transients - 2009**
- **A PSO Method with Nonlinear Time-Varying Evolution for Optimal Design of Harmonic Filters – 2009**
- **A Study on Gait-Based Gender Classification - 2009**
- **Subjective Evaluation of Spatial Resolution and Quantization Noise Tradeoffs - 2009**
- **A No –Reference Objective Image Sharpness Metric Based on the Notion Of Just Noticeable Blur (Jnb) - 2009**
- **Histogram Thresholding Using Fuzzy And Rough Measures Of Association Error - 2009**
- **On Color Texture Normalization for Active Appearance Models - 2009**
- **Local Features for Enhancement And Minutiae Extraction In Fingerprints - 2008**
- **A Fast Method for Automated Detection Of Blood Vessels And Lesions In Retinal Images - 2009**
- **Segmentation by Fusion Of Histogram-Based K-Means Clusters In Different Color Spaces - 2009**
- **Estimation Of Multiple, Time-Varying Motions Using Time-Frequency Representations And Moving-Objects Segmentation - 2009**

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- Joint Exact Histogram Specification and Image Enhancement Through The Wavelet Transform - 2009
- Optic Disc Detection from Normalized Digital Fundus Image by Means Of Vessels Direction Matched Filter - 2009
- Demosaicing of Color Filter Array Captured Images using Gradient Edge Detection Masks and Adaptive Heterogeneity-Projection - 2009
- Enhancement of Color Images By Scaling the DCT Coefficients – 2008
- Fingerprint enhancement and recognition using Back Propagation Algorithm - 2008
- Design of Digital Bilateral Filter for Image Diffusion - 2008
- Digital Image Steganography in Spatial & Frequency Domain - 2008
- Upper surface of the diaphragm estimate using 3D CT Images - 2008
- Digital Image Watermarking & recovery of the secret image - 2008
- Partial Volume Segmentation in the MR image of Brain - 2008
- Automatic Exudates Detection from the eyes of Diabetic Patients - 2008
- Image retrieval using Color, Texture and Shape - 2008
- Face Detection using Adaboost algorithm - 2008
- Color Image Segmentation - 2008

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DSP PROJECTS

- 3D Image Processing & Compression
- DSP based Audio Signal Processing
- DSP based Number Plate Recognition
- DSP based Power Spectrum Estimation
- DTMF Generation & Detection – Adaptive Channel Equalizer
- ECG Monitoring & Analysis
- Estimation of Energy using Subband Coding
- Face Recognition using Eigen Images
- Fetal Heart Rate Estimation using Intrauterine ECG Signal
- Finger Print Time Attendance cum Access Control System
- FIR Filter Design and Implementation
- FSK Modulation & Demodulation
- Heart Beat Analysis using Wavelet Transform
- Image Compression using Back Propagation Algorithm – ANN
- Information - Hiding System using Images – STEGNOGRAPHY

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- Wavelets - Real Time Identification of Power System Transients
- Radio Telemetry Design & Implementation
- Speech Encryption and Decryption
- Speech Recognition - ADPCM Implementation
- Spread Spectrum Analysis
- Speech Compression & Decompression using Adaptive Differential Pulse Code Modulation
- Exploring Sound Effects System in DSP Application
- Coding & Compressing of Speech Signals using Linear Predictive Coding
- Compression of Image using Windowing Technique using Wavelet System
- Verification & Identification in Biometric Application
- Concealing and Recovering a Text File from an Image
- Segmenting and storing .WAV File format
- Compressing an Image by varying the Degree of Lossiness
- Implementation of Fourier Wavelet in Image Compression
- Image Compression using Wavelet Transforms
- Time Frequency Analysis
- Doppler Effect for a Moving Observer Verification & Analysis

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- Edge Detection, Thresholding and Extracting Color from an Image
- Implementation of Adaptive Channel Equalizer using LMS Algorithm
- Extracting target from an Image, Blurring and Beblurring the Target
- Image Reconstruction using Neural Networks
- Detection of Colors in the Corner of an Image and Conversion of a Color Image to Grayscale Image
- A Novel Approach To Speech Signal Synthesis
- Voice Speech and Music Features Extraction and Classification System and Spectral Analysis
- Significant Chord Classification System in a Static And Dynamic Audio Signal
- Realization of Room Acoustical Sound and Vibration
- Sequential Jpeg Codec
- Median Filtering In Constant Time

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