MATLAB PROJECT TOPICS-IEEE from Softroniics

COMMUNICATION

- 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 Wireless Lans
- A Medium Access Control Scheme for Tdd-Cdma Cellular Networks With Two-Hop Relay Architecture
- A New Parameter For Uwb Indoor Channel Profile Identification
- 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

IMAGE PROCESSING

- 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

SOFTRONIICS

2nd Floor Vinayaka Building,
vellan street, sultanpet, Palakkad, Kerala

Call: 9037291113
0491 6061113
• 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 Watershedging Plus Ridge Detection
• Real-Time System for Monitoring Driver Vigilance
• Robust Dwt-Svd Domain Image Watermarking:Embedding Data in all Frequencies
• A Vlsi Architecture For Visible Watermarking in a Secure Still Digital Camera (S²dc) Design (Corrected)

SIGNAL PROCESSING
• Optimized Software Implementation of A Full-Rate IEEE 802.11a Compliant Digital Baseband 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 Decombanding for Improved Performance Of Companded Ofdm Systems
• Implementation of IEEE 802.11 A Wlan Baseband Processor
• Signal Adaptive Subband Decomposition for Adaptive Noise Cancellation

NETWORKING
• 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

SIGNAL PROCESSING TOOLBOX
1. Adaptive Equalizer.
2. Echo Cancellation.
3. Audio Signal Processor.
4. Forward Error Correction codes.
5. 12 Mbps Physical Layer – WLAN.
6. Subtractive Synthesis of a Violin Sound
7. Speech Coding with Linear Predictive Coding.

SOFTRONIICS

2nd Floor Vinayaka Building,
vellan street, sulthanpet, Palakkad, Kerala
8. Speaker Recognition System.
9. Optimum Fixture Location Layout

**IMAGE PROCESSING TOOLBOX**
1. Histogram Equalization.
4. Image Mosaicing.
5. Antialiasing Filters - Butterworth lowpass Filter.
6. Vehicle Number Plate Recognition System.
7. Image Compression using DCT.
8. Face Recognition System.
10. Steganography.
11. Finger Print Authentication.
16. Antialiasing Filters - Lowpass Box Filter.

**NEURAL NETWORK TOOLBOX**
1. Genetic algorithms for simulation optimization.
2. Back propagation training and local minima.
3. Data clustering with graph theory.
4. Fault-Tolerant and Bayesian Approaches to Self-Organizing Neural Networks.
5. Detecting head orientation.
1. CDMA Simulation
2. Face Recognition System
3. Intelligent Traffic Control System
4. Number Plate Recognition System
5. Virtual Keyboard
6. DSP based vacuum tube amplifier
7. Guitar Effects using DSP
8. Software Based Radio
9. Internal Model Control of DC Motor using DSP
10. Voice Recognition System
11. Interactive Global City Finder
12. Sound Controlled Robotic Trolley
IMAGE PROCESSING

IMAGE DEBLURRING
1. Deblurring Images Using the Blind Deconvolution Algorithm.
2. Deblurring Images Using a Regularized Filter.
3. Deblurring Images Using a Wiener Filter.
4. Deblurring Images Using the Lucy-Richardson Algorithm.

IMAGE ENHANCEMENT

IMAGE REGISTRATION
8. Perform Image Rotation and Scale.
10. Registering an Aerial Photo to an Orthophoto.
12. Registering Multimodal MRI Images.

IMAGE SEGMENTATION
15. Detecting Cars in a Video of Traffic.
17. Marker-Controlled Watershed Segmentation.
18. Texture Segmentation Using Texture Filters.
19. Color-Based Segmentation Using the L*a*b* Color Space.
GENERAL TOPICS

20. Implement Dilation, Erosion, Opening and Closing in MATLAB.
24. Video Display with Live Histogram.
25. Track a moving laser dot using MATLAB.
26. Calculating the Length of a Pendulum in Motion.
27. Averaging Images over Time.
28. Alpha Blending Streamed Image Pairs.
29. Identifying Round Objects.
30. Reconstructing an Image from Projection Data
32. Implementation of watermarking in spatial domain.
33. Implementation of watermarking in frequency domain.(DWT )
34. Distortion less data hiding based on integer wavelet transform (Watermark Embedding).
35. Implementation of Reversible Watermarking by Difference Expansion.
36. Image rotation, scaling and translation by using affine transform.
37. Image compression using WAVELETS.
38. Image compression using DCT.
39. Video based pedestrian detection and tracking.
40. Video stabilization in MATLAB.
41. Audio watermarking based on DWT.
42. Code Division Multiple Access CDMA MATLAB Implementation.
43. DSSS Direct Sequence Spread Spectrum with MATLAB Implementation.
44. Multipath fading channels
45. Implementation of BER of BPSK and BFSK over AWGN channel.
46. Computing the BER for BPSK modulation in a Rayleigh fading channel and compared to AWGN Channel.
47. Discrete MULTITONE (DMT) signaling technique
48. Gray-coded 8-ary phase shift keying (8-PSK) modulation using communications System objects
49. The BER performance improvement for QPSK modulation.
50. Pass band Modulation with Adjacent Channel Interference.
51. Multiple-Input-Multiple-Output (MIMO) systems.
52. Spatial multiplexing.
53. Channel impairments such as timing phase offset, carrier frequency, and carrier phase offsets for a minimum shift keying (MSK) signal.
54. BER Performance of Different Equalizers.
55. Simulate BER for QPSK in MATLAB.
56. GMSK compared to MSK type B and type A.
57. Simulation of PCM using MATLAB.
58. Perform path losses in urban area.
59. Calculation of two-layer fiber modes.
60. PAPR evaluation using Amplitude Clipping.
61. Implementation of Orthogonal frequency division multiplexing
62. Modulation and Demodulation of Digital modulation schemes using MATLAB SIMULINK.
63. Simulation for channel estimation techniques using LS, LMMSE, and computationally efficient LMMSE methods.
64. Effect of Carrier Frequency Offset on OFDM system simulation under AWGN
65. WIMAX physical layer simulation.
66. OFDM High Power Amplifier Effects.
67. Decoding of Turbo codes.

SIGNAL PROCESSING

68. Spectral Analysis of Signals in MATLAB.
69. Analysis of Fixed-Point Numerically Controlled Oscillator using simulink.
70. Dual-Tone Multi-Frequency (DTMF) Signal Detection.
72. FIR Gaussian Pulse-shaping Filter Design.
73. Advanced Filtering with Discrete-Time Filter (DFILT) Objects.
74. Measuring the Power of Deterministic Periodic Signals.
75. Linear Prediction and Autoregressive Modeling.
76. Discrete Walsh-Hadamard Transform.
77. Waveform Generation.
78. Signal Reconstruction from Continuous Wavelet Transform Coefficients.
79. Continuous and Discrete Wavelet Analysis.
80. Multisignal 1-D Wavelet Analysis.
81. Wavelet Coherence.
82. Wavelet Analysis for 3D Data.
83. Multiscale Principal Components Analysis.
84. Pattern Adapted Wavelets for Signal Detection.
85. Wavelet Scalogram Using 1D Wavelet Analysis.
86. Designing Low Pass FIR Filters.
87. FIR Interpolation and Decimation.
88. Adaptive Filters (ADAPTFILT) Objects.
89. Fixed-Point Direct-Form FIR Filters.
90. Arbitrary Magnitude Filter Design.
91. Wavelet Denoising.
92. Efficient Narrow Transition-Band FIR Filter Design
93. Minimax FIR Filter Design.
94. FIR Nyquist Filter Design.
95. FIR Half band Filter Design.
96. Classic IIR Filter Design.
97. IIR Polyphase Filter Design.
98. Design of Peaking and Notching Filters.
99. IIR Filter Design Given a Prescribed Group Delay.
100. Analysis of Multirate Filters.
103. Efficient Sample Rate Conversion between Arbitrary Factors.
104. Perfect Reconstruction Two-channel Filter Bank.
108. Audio Flanging.
109. LPC Analysis and Synthesis of Speech.
110. Audio Sample-Rate Conversion.
111. Acoustic Echo Cancellation (AEC).
112. Audio Weighting Filters.
113. Parametric Equalizer Design.
114. Pulse Shaping Filter Design.
115. Envelope Detection.
116. Equalization in Digital Communications.
117. Three-Channel Wavelet Transmultiplexer.
118. Arbitrary Magnitude and Phase Filter Design.
119. Complex Bandpass Filter Design.
120. IF Subsampling with Complex Multirate Filters.
121. GSM Digital down Converter.
122. Design and Analysis of a Digital down Converter.
123. Digital Up and Down Conversion for Family Radio Service.
124. Floating-Point to Fixed-Point Conversion of FIR Filters.
125. Optimized Fixed-Point FIR Filters.
126. Floating-Point to Fixed-Point Conversion of IIR Filters.
128. One dimensional kalman filter.
129. Extended kalman filter.
130. DTMF encoder (generator)
131. Evaluate the discrete convolution using overlap-add method.
132. Spectrogram.

**GRAPHICAL USER INTERFACE PROJECTS**

133. A birthday cake for someone special to whom you wanna surprise on his/her birthday with a cake in MATLAB.
134. GUI for number system converter.
135. GUI for weekday predictor.
136. The Graphical User Interface for the TE/TM wave propagation through multilayered structures.
137. Implementation of CDMA in GUI.
138. GUI for interactive selection of IMADJUST parameters.
139. GUI environment for registering a Moving image to a fixed image.
140. GUI for Image processing.
141. **GUI for image segmentation.**
142. Digital transmission GUI.
143. Implementation of FFT in GUI.
144. DTMF Decoding using FFT & Goertzel Algorithm in GUI.
145. DTMF Decoding using Digital filtering in GUI.
146. Hierarchical RGB IMAGE Compression.
147. AM modulation and demodulation in MATLAB using GUI?
148. Delta modulation of an audio signal using MATLAB GUI