

Index

3D patient scheduling (3D-PS) 544-545, 548-551, 553, 556-559
 1D patterns 65-67, 74-75, 78, 81-83
 3D Position Estimation 16

A

ACDC - See Average Compressed Direction Coding.
 Action Evaluation Network (AEN) 628
 Action Generation Network (AGN) 628
 Active Appearance Model (AAM) 19
 Active Contour model 88-89, 105-107
 adaptive neuro-fuzzy inference system 481, 491, 628, 633, 635-638, 640, 647-650
 adaptive resonance theory (ART) 145, 452, 458, 476-480, 485, 487
 Adaptive Zoning 247, 249, 255, 671
 additive white Gaussian noise (AWGN) 327, 516, 526, 528, 531-532, 538
 adenosine triphosphate (ATP) 454
 Agent Credibility (AC) 104, 353, 448, 485, 617
 agglomerative hierarchical clustering algorithm (AHC) 639
 Aggregation 388-389, 392-399, 401, 403, 405-407, 409, 411
 analog to digital converters (ADC) 658, 665, 667
 ANFIS - See adaptive neuro-fuzzy inference system.
 Area Under the ROC Curve (AUC) 435-437, 443-445
 Artificial Intelligence (AI) 35, 42, 56-57, 59, 69, 106, 124, 144, 192, 250, 280, 284, 307, 313, 331-332, 335, 358-359, 455, 488, 491, 495, 533, 559-562, 604, 606, 609, 613, 624, 627-632, 636, 640, 650, 652-653, 665

Artificial Neural Networks (ANNs) 131, 214, 218, 221-225, 227, 229-230, 339, 353, 379-380, 408, 445, 450-452, 455, 457-459, 463, 484-485, 487-490, 493-498, 509-511, 514, 521-523, 526-536, 538-541, 543, 634, 648-650, 669-670
 ARTMAP 477, 487
 Augment Database 135, 139, 144, 147
 Auto Regressive Moving Average (ARMA) 383, 511, 533-535, 537-540
 Average Compressed Direction Coding 249, 255, 257-258, 263, 266
 AZ - See Adaptive Zoning.

B

Backpropagation 222, 353, 465-470, 475, 481-483, 485-487, 489-491, 493-497, 523, 525
 backpropagation algorithm 465-467, 469-470, 475, 481-482, 486, 491, 495-496
 back propagation (BP) 222, 224-225, 375, 379-380, 490, 523, 525, 528, 533-535, 635, 651, 658, 672
 Bargaining Game (BG) 610, 616-618, 620-622, 629-630, 632
 Bayesian Belief Networks (BBN) 429, 436-437, 443
 bidirectional associative memory (BAM) 458, 470-471
 bi-directional self-organizing neural network (BDSONN) 482, 486
 Biological Neuron 452-453, 459, 497
 Biometric access controls 108
 Biometric Experimentation Environment (BEE) 151, 160
 Biometrics 33, 42, 108-110, 148-149, 151, 160, 163-164, 194, 208-209, 211, 309, 352
 Bit Error Rate (BER) 510, 522, 530-533, 535-536

Index

C

CA - See Common Agent.
Camera calibration 65, 67, 70, 73, 78, 83-85
Causal model 604, 608
CBIR - See Content Based Image Retrieval.
CDPS - See coordinated distributed problem solving.
Center for Excellence for Document Analysis and Research (CEDAR) 251
Central Nervous system (CNS) 450, 490, 654
channel side information 517, 522
charge-coupled device (CCD) 167, 339, 349
CIE Lab 165, 173, 188-189, 191
Circle Hough Transform (CHT) 288-289, 308
Clustering 87, 174, 177, 184-186, 191-192, 195-196, 199, 204-206, 217, 260, 264, 269, 310-311, 315-317, 325, 327, 330-331, 335, 345, 356, 366, 379, 474, 476, 480-481, 492, 499-500, 502, 505-506, 508, 580, 609, 624-627, 629-630, 633-635, 638-641, 643, 647-649
Cognitive map 583, 585-586, 591, 603-608
color image segmentation 165, 174, 190, 192-193, 486, 489
color textural features 189
Common Agent 13, 84, 164, 333, 448, 455, 486, 488, 490, 492-493, 496, 542, 549, 631, 671
complement segment regions (CR) 172, 179-181, 188, 259, 265, 293-294, 309
computed tomography (CT) 166, 233, 549, 553
Computer Vision 1-2, 11-17, 32-33, 39, 48, 51, 53-54, 63-64, 75, 84-85, 104-106, 109, 123-129, 146, 163-165, 191-193, 209-210, 237, 265, 269-270, 284-285, 306-309, 331-332, 353-355, 365-366, 387, 474, 487, 499
conjugate gradient (CG) 222, 470, 487
Content Based Image Retrieval 123, 232-239, 243-246
Convex Optimization 53, 55, 63-64, 359, 361, 365
Convex Programming 291, 300, 366
coordinated distributed problem solving 546
Corner detection 15, 270-272, 276, 278-282, 284-285
correlation based feature selection technique (CFS) 432, 437, 443
CSI - See channel side information.

D

Decision Making Support 564-566, 569, 573, 579, 582

decision support system (DSS) 409, 561, 563, 580, 582, 584, 591, 604, 629, 649
Depth Calculation 17
Devnagari characters 249-255, 258-259, 263, 265-269
difference-of-Gaussian (DoG) 4, 302
diffusion weighted imaging (DWI) 166, 169
digital to analog converters (DACs) 653, 658, 665
Dual Hahn moment invariants (DHMIs) 47-48, 50
Dual Tree Complex Wavelets Transform (DT-CWT) 232
Duffing Oscillator 310, 312, 323-325, 327-329, 331, 337
Dynamic State 129, 138-139, 141, 144, 147
Dynamic System 88, 91-92, 107

E

Earliest Due Date first (EDD) 554, 557
EBC - See eyebrow-constriction.
efficient Support Vector Machine (eSVM) 286-287, 291-292, 298-302, 304-306
Elastic bunch graph matching (EBGM) 199, 209
Electroencephalography (EEG) 310-313, 319, 321-325, 327-331, 334-337, 368, 374, 384, 669
electromyogram (EMG) 213-214, 216, 218, 220, 226-227, 229-230, 311-312, 330, 367, 370, 379, 383-387, 651-656, 658-661, 664-665, 667-673
Electronic Marketplaces (EMs) 209-210, 267, 609-611, 614-615, 617, 628-629
electro-oculargram (EOG) 371
Embedded System 652-653, 666, 672
Emergency Medical Rescue Services (EMRS) 564-567, 569-570, 572-573, 577-579, 581-582
endoscopic images 165, 167, 169, 173-179, 181, 190-193
epipolar lines 69-70
Equal Error Rate (EER) 149, 159-160, 162
Euclidean distance 7-8, 28, 54, 56, 71, 90-91, 116-117, 120, 134, 136, 185, 242-243, 302, 305-306, 315, 317, 473, 625-626
Extended Kalman Filter (EKF) 636, 653, 661, 663-665, 667
eyebrow-constriction 318
Eye Detection 148, 163, 286-288, 291-292, 294, 296, 298, 301-302, 306-307, 309, 338-339, 349, 352-353
eye-opening (EO) 7-8, 313, 315, 318

F

Face Image Analysis 20, 108, 127
 Face Recognition Grand Challenge 163, 286-287, 302, 306, 309
 Face Recognition Technology (FERET) 23-27, 29-30, 33, 110-113, 125, 287, 306, 308-309
 Face Space 108, 111-112, 116, 123, 125, 127
 Facial Features Detection 340, 344, 348-349, 352-353
 false accept rate (FAR) 159-160, 162
 false reject rate (FRR) 160
 FastICA 372-374, 378-379
 FCM - See fuzzy-C means.
 FCM model 592, 594-595, 603, 608
 Feature Extraction 6, 11, 34, 43, 50-51, 110, 126-127, 170, 174, 189, 191, 193, 196, 233-234, 236-239, 241, 247, 250-254, 258, 262-263, 268, 309, 315, 319, 321, 323, 354, 370, 474, 640, 671
 Feature Extraction Method (FEM) 34-35, 50, 238-239, 251
 Features from Accelerated Segment Test (FAST) 2
 First Come First Serve (FCFS) 554, 556-558
 Fisher linear discriminant analysis (FLDA) 116
 Fisher's Linear Discriminant (FLD) 112, 115, 199, 356
 Fourier Transform 232, 238-241, 370, 520
 FRGC - See Face Recognition Grand Challenge.
 Functional Magnetic Resonance Imaging (fMRI) 33, 166, 312, 330, 333-334, 336
 FuzzME 388-389, 396, 401-402, 404, 406-408, 411
 Fuzzy c-Mean (FCM) 316, 499-502, 504-505, 507-508, 583-586, 589-592, 594-598, 600-603, 606, 608, 625-627
 fuzzy-C means 316, 499-502, 504-505, 507, 583-586, 589-592, 594-598, 600-603, 606, 608, 625-627
 Fuzzy cognitive maps (FCMs) 316, 499-502, 504-505, 507, 583-586, 589-592, 594-598, 600-608, 625-627
 fuzzy image filtering 270
 Fuzzy Logic (FL) 51, 131, 163, 229, 268, 271, 285, 331-334, 408-410, 412-413, 426-427, 486, 508, 565-566, 579-580, 607, 609-624, 627-633, 639, 648-650
 Fuzzy Logic Toolbox (FLT) 413, 418
 Fuzzy Methods of Multiple-Criteria Evaluation 388-389, 402, 409, 411, 580
 FuzzyWA 393-397, 403

G

Gappy Principal Component Analysis (GCPA) 197
 Gaussian distribution 23, 154, 327
 Generalised Fuzzy Systems (GFS) 414, 418-420, 422
 generalized partial global planning (GPGP) 546
 Genetic Algorithms (GAs) 131, 144, 266, 370, 382, 481-483, 489-493, 495-497, 521, 558-563, 580, 582, 592, 624, 627-631, 634, 636, 649-650
 Geodesic distance 134, 136-137
 Geographical Information Systems (GIS) 236, 582
 Geometric Moment Invariants (GMIs) 43-49
 Goals Tree 392-394, 402-403, 406, 411
 Gradient Descent Back Propagation (GDBP) 525, 528, 533
 Gradient Location and Orientation Histogram (GLOH) 3
 gradient, structural and concavity (GSC) 251
 Gradient Vector Flow (GVF) 86-89, 92, 94-96, 98-99, 102, 104-107
 Graphical User Interface 413
 GUI 413, 426, 553

H

Haar Wavelet 6, 286-287, 291-292, 294, 296-298, 302, 304-306, 309
 Hall Monitor 96-98, 100-103
 Hamming distance (HD) 150, 156, 159, 499
 Heuristics 131, 148-149, 155, 164, 301, 340, 357, 364, 482, 489, 497, 558, 560, 562, 576
 hidden Markov models (HMMs) 217, 251, 268, 312, 330, 332, 383, 385-386, 480, 490
 Hierarchical Attributed Relational Graphs (HARG) 249, 255, 258-259, 261-262, 265-266, 268
 Histogram of Oriented Gradient (HOG) 287, 292, 294-295, 302
 Horizontal Projection Histogram (HPH) 253-254
 hospital treatment capacity (HTC) 566, 574-576, 578
 HSI 165, 171, 177, 191, 339
 HSV 165, 172, 188-191
 human computer interaction (HCI) 212-213, 228, 311, 331, 334, 382, 384
 Human identity photographs 18-19, 30
 Hyper Frame Vision (HFV) 10

I

Image Enhancement 148-149, 164
 image moments 34-36, 39, 42, 50-51

Index

Image Processing Techniques 164, 166-167, 171, 193, 195, 198, 329
Image Segmentation 9, 15, 87, 105-107, 164-166, 169-170, 174, 190, 192-193, 237, 252, 284, 316, 337-338, 354, 481, 484, 486, 488-489, 491-492
Improved Sequential Minimal Optimization 302
Independent Component Analysis (ICA) 113, 115, 126, 150, 163, 367-374, 376-386
Independent Components (ICs) 113, 123, 126, 150, 367-368, 372-373, 383-384, 479
Inference mechanism 583-586, 591, 596, 598, 600, 603, 608
Integer Programming 366, 545, 550
Intelligent Agents (IAs) 192, 560-562, 609, 612, 614-615, 629-632
intelligent image processing 270
intensity filter (IF) 293, 592, 594
intersymbol interference (ISI) 193, 509-510, 513, 518-519
Interval Type-2 Fuzzy Logic Systems (IT2 FLSs) 412-419, 421-422, 425-427
Iris Challenge Evaluation (ICE) 148-152, 154-164
Iris Recognition 148-151, 159-160, 162-164
ISMO - See Improved Sequential Minimal Optimization.

J

Java Agent DEvelopment Framework (JADE) 544, 553-554, 559
Job shop Scheduling (JSP) 448, 547, 553, 560-563

K

Kalman Filter (KF) 86, 88, 91-92, 95, 98-99, 102, 104, 107, 521, 636, 651, 653, 661-665, 667, 672
Karush-Kuhn-Tucker (KKT) 299-300
kernel density estimate (KDE) 89
Kernel Fischer Discriminant Analysis (KFDA) 116, 127
Kernel Function 89, 94, 97, 115-118, 123-124, 127, 291, 320, 436, 482
Kernel Principal Component Analysis (KPCA) 115, 118-119, 127
K-Fold Cross-Validation 337
K nearest neighbors (K-NN) 189
k- Nearest Neighbourhood Classifier (k-NNC) 199
knowledge base (KB) 175, 181, 184-186, 191, 455, 458-459, 462, 480-481, 483, 584, 608-610, 621, 624, 626

Krawtchouk Moment Invariants (KMIs) 46-49, 649
Krawtchouk moments (KMs) 39-42, 46-47, 52, 575-576, 578

L

L2 Norm 53, 56, 64
L2 triangulation 53-55, 62-64
Learning From Examples (LFE) 625, 627
least square (LS) 386, 510, 533, 536, 620, 633, 636, 661, 664
Legendre polynomials 37, 43
Levenberg–Marquardt (LM) 341, 470
limbic boundary 148-149, 151-152, 154-155, 157-159, 162
Linear Discriminant Analysis (LDA) 20-22, 112-113, 116, 125-127, 370
linear matrix inequalities (LMIs) 43-44, 48, 53, 55, 59, 63-64
linear minimum mean square error (LMMSE) 510
Linear Programming 355, 359, 365-366, 410, 558, 576
line-of-sight (LOS) 510-511, 514-515, 543, 671
Linguistic Fuzzy Modeling 390, 407, 411, 565, 582
Linguistic Scale 391, 394, 401-402, 405, 568, 570, 582
Local Energy based Shape Histogram (LESH) 3
Local Stroke Direction (LSD) 251
Logistic Regression (LR) 429-430, 435-437, 443
LogitBoost (LB) 429-430, 436-437, 443
lower esophageal sphincter (LES) 167-168

M

magnetic resonance imaging 166, 233
magneto encephalography (MEG) 166
MAS - See Multi-Agent System.
MATLAB 61, 83, 98, 104, 243, 281, 321, 412-413, 418, 423, 427, 506-507, 592, 641, 644, 647, 669-670
Maximal Stable Extremal Regions Detector 2
Maximum uncertainty Linear Discriminant Analysis (MLDA) 20-22, 28, 33
mean absolute difference (MAD) 86, 92-93, 96, 102
Mean Square Error (MSE) 345, 413, 420, 422, 425-426, 510, 521, 524-526, 528, 530-531, 644, 667
Median Axis Transformation (MAT) 253
medical imaging 32, 87, 102, 106, 165-166, 236
membership functions (MFs) 57-58, 258, 264, 277, 346, 390, 393-395, 397, 399, 413-416, 419, 423, 493, 500-503, 506-507, 567-568, 570-571, 575, 592-593, 608, 612-614, 616, 620, 624-628, 633, 635-636, 638, 640-641, 644, 647-649

microscopic images 165, 184, 188-189, 191-193
 MIMO-OFDM 509-510, 515-516, 518-519, 522, 525, 529, 532, 541-543
 Minimum Bounding Box 366
 minimum mean square error (MMSE) 510, 521, 533, 536
 mixed integer and linear programming (MILP) 355, 359-360, 362, 365
 Modified Learning from Examples (MLFE) 625, 627
 moment invariants 3, 34-35, 42-51
 motor unit action potentials (MUAP) 368, 370, 373, 384
 mouth-opening (MO) 313, 315, 318
 Moving root mean square (MRMS) 215, 219
 MRI - See magnetic resonance imaging.
 MSER - See Maximal Stable Extremal Regions Detector.
 Multi-Agent System 545
 Multi-Input Multi-Output (MIMO) 510-511, 515-519, 521-522, 525-526, 529, 533, 537, 542-543
 Multi-layer Perceptrons (MLPs) 48, 269, 339, 354, 429-430, 435, 437, 443, 452, 458, 464, 475, 485, 494-495, 497, 509, 511, 523-526, 528, 531-534, 536-537, 541, 543, 671
 multilevel sigmoidal (MUSIG) 481-482, 486, 488
 multi-linear discriminant method 18-19
 Multiple-Criteria Evaluation 388-393, 402, 407, 409, 411, 580
 Multiple Input Single Output (MISO) 516, 641
 Multi run ICA (MICA) 369-370, 375-382, 384
 Myoelectric Signals (MES) 213-214, 229-231, 369-370, 379, 547, 560, 562

N

Naïve Bayes (NB) 336, 429-430, 436-437, 443, 445
 Nearest Neighborhood Clustering (NNC) 199, 201, 204-205, 207, 624, 626-627
 Nearest Neighbor (NN) 112, 204, 251, 626, 635
 Nearest Neighbour Classifier 205
 N-methyl D-aspartate (NMDA) 455, 491, 496
 NNage 429-430, 436-437, 443
 noise reduction 270
 non-rigid objects 7, 105, 141, 143-144
 Nucleocytoplasmic (NC) 93, 170, 184-186
 nucleocytoplasmic ratio 184-186

O

Object Configurations 147
 Object Manipulation 14, 17

Object-Oriented (OO) 429-432, 435, 445, 447-449
 Object Recognition 1-3, 7, 10-11, 13-17, 35, 106, 115, 123, 128-132, 134-135, 137-140, 142-147, 353-354, 488
 operations research (OR) 100, 107, 408-409, 479, 548, 562, 566, 579-580, 605
 Opinion Weight (OW) 617
 Optical Character Recognition (OCR) 249-250
 optimal brain damage (OBD) 483, 488
 optimal brain surgeon (OBS) 483, 490
 optimal cell damage (OCD) 483
 Optimization 53, 55, 57-60, 63-64, 75, 125, 131, 166, 222, 267, 291, 299-301, 320, 355, 357, 359-361, 365-366, 409, 412, 423, 426, 475, 483-484, 487, 489, 493-497, 499-500, 506-507, 541, 543-545, 558-559, 562-563, 567, 580, 582, 605, 631, 633-637, 640-641, 647, 649-650, 662, 664
 Ordered Fuzzy Weighted Average (FuzzyOWA) 393-397, 403, 405
 ORL database 120-123
 Orthogonal Frequency Division Multiplexing (OFDM) 509-510, 518-522, 525-526, 528-529, 532, 542-543

P

Parkinson's disease 651, 670, 672
 Partial Support Vector Machines 197
 particle swarm optimization 605, 633, 647, 650
 Particle swarm optimization 633, 649-650
 Particle Swarm Optimization 412, 423, 558, 562-563, 633, 635-636, 641
 Partitioned Levenberg-Margardt algorithm 76
 Patient Agent (PA) 264, 353, 486, 492, 495, 549-554
 Pattern Classification 16, 32, 39, 51, 127, 195, 198, 209, 267, 307-308, 310, 316, 331, 357, 365-366, 379, 474, 490, 509
 Pattern Clustering 195
 Pattern recognition 1, 13-16, 32-38, 42, 44, 48, 50-52, 64, 84-85, 104, 106-107, 110, 124-127, 130-131, 139, 145-146, 162-164, 193, 195-196, 209-210, 229, 247-248, 250, 252, 265-270, 284-285, 307-309, 316, 336, 352-353, 356, 365-367, 369, 379, 383-384, 387, 470, 480, 484-487, 489, 491, 493-497, 499, 508, 543, 629, 652-653
 PCA-SIFT 9, 14
 Perceptron 48, 339, 354, 356, 452, 458, 460, 462-464, 475, 482, 494, 496-498, 511, 523, 525, 534, 537-539, 542-543

Index

Perfect Reconstruction (PR) 238-239
Pixel-based Quality Measure 86, 100, 102-103, 107
Pleomorphism 170-171
Pose Estimation 2, 6-17, 88, 385
positron emission tomography (PET) 166, 336
Pre-Shape Space 128-129, 132-141, 144, 147
primary motion mask (PMM) 93
Principle Component Analysis (PCA) 19-22, 24-25, 28, 30, 111-116, 124-126, 150, 162, 196-197, 208, 287, 292, 294, 297, 302, 306, 309, 313, 352, 372, 385
Probabilistic PCA (PPCA) 21-23, 111
probability distribution function (PDF) 3, 147, 370, 408, 485, 489, 496
Procrustean distance 132, 134-135, 139-141, 147
Projection Functions (PFs) 10, 288-289, 307, 309, 340, 353
proposed parallel self-organizing neural network (PSONN) 482
Pseudo-Zernike Moment Invariants (PZMIs) 44, 48
Pseudo-Zernike moments (PZMs) 36, 38, 41-42, 44, 50-51
PSO 412, 423-424, 558, 633, 635-637, 640-641, 644, 647, 650
PSVM - See Partial Support Vector Machines.
Pulmonary infection 585, 587, 592, 594-596, 600, 608

Q

quadratic convex programming (QP) 291, 300-301
Quality of Product (QoP) 394
quality of service (QoS) 509, 541
Quantum Neural Networks 484, 489, 492, 497-498

R

RA - See Resource Agent.
radial basis function network (RBFN) 336, 436, 452, 458, 475, 486-487, 496
Radial Basis Function (RBF) 50, 104, 116-118, 121-124, 336, 429-430, 436-437, 443, 452, 458, 474-476, 486, 488, 493, 496, 634, 649, 658-660, 669, 673
Raised to Power Operation 148-149, 152-154, 157-158, 162, 164
Random Forest (RF) 428-430, 435-437, 443-445, 448, 517
RBF kernel 116-118, 121-124
receiver operating characteristic (ROC) 159-161, 434-435, 437, 447
receiver side information 522

Recognition of Multiple Configurations of Objects (RMCO) 129, 131, 138-141, 145
Reduced Support Vector Machine 298-299, 308
reference cell structure 201
reference occlusion 203
reference structure 202-204
Region Of Interest (ROI) 90, 167, 169, 181, 249, 366
Regularity Criterion (RC) 640-641, 643
research and development (R&D) 212, 230, 233, 384, 406
resilient propagation (RPROP) 341, 353, 470, 494
Resource Agent 260-261, 549-550
RGB 165, 171-177, 179, 181-185, 188-189, 191, 293-294, 309, 315, 339-340, 342
robotic vision 34, 42
Root Mean Square Error (RMSE) 413, 420, 422, 425-426, 644, 667
root mean square (RMS) 74, 83, 215-220, 224-225, 227, 229, 374-375, 378-382, 413, 520, 644, 667
Rough Set 452, 482, 493, 498
RSI - See receiver side information.
RSVM - See Reduced Support Vector Machine.

S

Salient Features 344, 354
Scale Invariant Feature Transform (SIFT) 3-11, 13, 164, 344
SCC - See squamous cell carcinoma.
Segmentation 9, 11, 13, 15, 86-90, 92-93, 95, 98-100, 102-107, 148-152, 154, 156-159, 162-166, 169-170, 173-175, 177, 179, 181-185, 187, 190-193, 215, 235, 237, 250, 252-253, 255, 257, 259, 263-266, 270, 284, 315-318, 330, 337-346, 350-351, 354, 382, 385, 481, 484, 486, 488-489, 491-492
self-organizing feature map (SOFM) 452, 458, 472-474, 498
SEMG - See Surface Electromyogram.
Sequential Minimization Optimization Algorithm (SMO) 291, 307
Shape Space 30, 128-135, 137-141, 144-147
shape space theory 128-132, 134-135, 137-139, 141, 144
Shortest Path 135-137, 140, 144, 147
Signal to Interference Ratio (SIR) 369, 374-375, 377, 379-381
Single Input Multiple Output (SIMO) 515-516
single photon emission computed tomography (SPECT) 166

singular value decomposition 54, 59
 skin-color domain 340, 342
 skin color model 165, 177, 179, 181-183, 191-192, 353
 Smallest Univalued Segment Assimilating Nucleus (SUSAN) 271-272
 Snake Algorithm 87-89, 92-99, 102, 107
 Software Research Laboratory (Softlab) 431
 Space-Time- Frequency Codes (STFCs) 522
 Speeded up Robust Features (SURF) 3, 5-7, 11, 13, 338, 340, 344-346, 349-352
 squamous cell carcinoma 165, 184, 186, 189-191
 Statistical Discriminant Method (SDM) 20, 22-31
 Statistical Learning Theory (SLT) 116, 125, 164, 210, 290, 308-309, 495, 497
 statistical modeling 18
 Stereo Vision 15, 64
 Subspace 19, 28, 108, 111-114, 116, 121-125, 127, 130, 180
 Supervised Learning 337, 344, 366, 460, 465, 480, 487, 498
 Support Vector Machines (SVMs) 33, 115-116, 125, 127, 163, 195, 197, 199, 201, 204-205, 207-210, 238, 286-287, 289, 291-292, 298-301, 304-310, 313, 319-323, 327-329, 331-332, 336-337, 339, 349, 352, 356-357, 366, 429-430, 436-437, 443, 445, 458, 482, 487-488, 496, 508
 support vectors (SVs) 115, 125, 127, 195, 197, 199, 204-205, 208-210, 238, 286-287, 289-292, 298-301, 304, 306-310, 313, 319-321, 327, 331-332, 336-337, 339, 356-357, 366, 429, 436, 458, 482, 487-488, 495-496, 508
 Surface Electromyogram 212-220, 227-230, 367-387, 654-655, 669-670, 673
 Surgical Case Scheduling (SCS) 548, 561
 SVD - See singular value decomposition.
 Symbolic Data Analysis (SDA) 116, 122-124, 127
 symbolic Kernel Fisher Discriminant analysis (Symbolic KFD) 108, 116, 118, 120-123
 symbolic KFD classifier 120

T

Takagi-Sugeno-Kang (TSK) 634-636, 648

Tchebichef moments (TMs) 39, 41-42, 45, 50, 52, 484, 492
 Text REtrieval Conference (TREC) 237
 Time Delayed Back Propagation neural network (TDBPNN) 658-661, 673
 time lag recurrent networks (TLRN) 469
 Time-of-Flight (ToF) 6, 15
 time on duty (ToD) 570, 572
 transmitter side information (TSI) 522
 Triangulation 53-56, 59-64, 71, 84
 Type-2 FSs (T2 FSs) 413-418
 Type-1 Fuzzy Logic Systems (T1 FLSs) 412-414, 417-426
 Type A Error 358-360, 366
 Type B Error 358-360, 366

U

Unsupervised Learning 366, 472, 498, 604, 624

V

Variance PF (VPF) 289
 Vertical Projection Histogram (VPH) 253-254
 Viewpoint Invariant Patches (VIP) 6, 16
 Vptraffic 96-103
 virtual channel representation (VCR) 518, 521

W

weather quality (WE) 570-572
 Weighted Ordered Weighted Average (WOWA) 388, 393-395, 397-398, 403, 406-407, 411
 Weighted Trustworthiness Value (WTV) 617
 Widrow-Hoff learning rule 222

Z

Zernike moments (ZMs) 37-39, 41-42, 44, 50-52, 340, 352
 zero forcing (ZF) 521
 Zonal Stoke Frequency (ZSF) 258, 264