

Index

A

AAA (Authentication, Authorization and Accounting) 135-136
 access control model 165, 167, 187-189, 191
 Access Priority Decision 173-174, 184-186
 Adaptation rights 241
 adjacent pixels 65, 67
 Advance Video Coding 67
 Agent-Based Simulation 193-196, 204
 analog media 32
 aperiodic dynamic process 14
 Audio Encryption 68, 73
 authentication protocol (AP) 134, 137-138, 140, 151, 158, 160, 162-163
 authentication server (AS) 138-139, 151, 153
 authenticator 139

B

Back propagation learning 106, 108, 110-111
 bandwidth 30, 36-37, 41, 43, 57, 69, 73, 75, 84-85
 bidding price 198-200, 203
 Bifurcation diagram 14-15
 Binary model 106
 binary string 100
 Biometric authentication 144-145, 148-149, 160, 162
 Blind audio watermarking 37, 63
 block ciphers 65-66, 71

brute-force attack 66, 88

C

CAGR (Compound Annual Growth Rate) 149
 CAPTCHA (Completely Automated Public Turing test to tell Computers and Humans Apart) 156
 cepstrum 40
 Challenge-Response (CR) 133-134, 138, 140, 143, 149-150, 156-157, 160
 chaotic cipher 66
 chaotic maps 1, 14, 71-72, 76
 chaotic neural network model 106
 ChemicalBomb 172, 177, 181-182, 184-185
 circulation 31, 102, 231, 238
 Classicism 248
 Close Decision 172-175, 178, 180, 184-186
 collaborative production 237, 249, 251
 Collaborative Tagging 293, 304
 Collaborative Tags 289-290, 292
 collective action 238, 240, 247-248, 251, 256-257, 259
 Collective Intelligence 192, 211, 261-264, 267-268, 276-277, 279-280, 284-285, 288-295, 302, 305
 communication scalability 262
 community manifesto 262, 264, 267-268, 272-277, 283-284
 community of interest (CoI) 190, 261-264, 267-269, 271-281, 283-284, 290, 303

Index

Community of Practice (CoP) 255, 275-277, 284-286, 289-290, 292-296, 302-305
commutative watermarking and encryption (CWE) 86-87, 92
competitive neuron model 106
compression-combined encryption 70, 78-81
compression ratio 69, 81
contemporary media environment 237, 240-242, 246-247, 249-250, 255-257
content protection community 64
Content Scrambling System (CSS) 32
Contrast Adjustment 20, 22
Contribution task 268, 271-274, 276-277
copyleft movement 246
copyrightability 216
copyright protection 2, 7, 9, 28-29, 33-35, 60-61, 99, 103, 133, 215-217, 219, 222, 229, 233-234, 246
correlation coefficient 20-21
cover data 5-7
CR framework 138, 140
cryptanalysis 65-66, 91
Cryptography 2, 14, 25-26, 31-34, 65, 87, 90, 93-96, 133, 141, 149, 156, 161-162
cryptosystem design 65-66

D

Data and Knowledge Management 261
Data Encryption 67-68, 70-72, 81, 141, 158
data hiding 2, 45, 58, 129
Data Protection 164
DCT coefficients 9-10, 74-77, 79, 84-86, 112, 123, 128
Deny Priority Decision 173-174, 184-186
DES algorithm 65, 67, 73
DES (Data Encryption System) 65-67, 73, 77, 141
Detectability 5, 7
detection 4-6, 9, 38-40, 46-48, 50-54, 56-57, 59, 62-63, 103, 130, 169
differential attack 66, 88
digital content 31, 33, 102

Digital Fingerprinting 86
digital media 2, 8, 31-32, 245
Digital Millennium Copyright Act (DMCA) 32
Digital Right Management (DRM) 32
Digital Watermarking 1-4, 6-8, 25-29, 33, 58, 60, 98-102, 104, 110, 129-131
direct encryption 70-71, 81
discrete cosine transform (DCT) 8-10, 13-14, 25, 55-56, 62, 66, 74-77, 79-80, 84-86, 103-105, 109, 112, 123, 126, 128
Discrete Wavelet Transform (DWT) 10, 19-21, 24-25, 57, 103-104, 128
Display rights 242
Distributed Multiresolution Discrete Cosine Transform (D-MR-DCT) 13-14, 18-21, 24-25
Distributed Multiresolution Discrete Fourier Transform (D-MR-DFT) 13-14, 18-21, 24-26
Distributed Multiresolution Transform (DMT) 1, 10, 12, 14, 16-18, 20
Distribution rights 241
DNA-based authentication 147
domain ontologies 165
DRM design 31
DRM strategies 31

E

EAP (Extensible Authentication Protocol) 138
economic policy 195, 258
economic theory 195-196, 259
E-Health 261-262, 266, 277, 284
Ellipse Curve Cipher 65
Elman network model 106
Encryption Algorithm 32, 67-74, 78-79, 82, 85, 88, 95
error correcting code 57, 63
excitation signal 40
Experimental Economics 193-195, 202, 210-211
extraction key 99, 110-113, 115, 126

F

false accept rate (FAR) 145, 150, 187,
246, 249-250, 262, 276
false rejection 53-55
false reject rate (FRR) 145
Fast Fourier Transform (FFT) 11, 13-14,
26, 46, 66, 95
FCA (Formal Concept Analysis) 299-302
feature extraction 98-99, 110-113, 126,
144
Federal Information Processing Standard
(FIPS) 141
Fixed Length Code 78
Folksonomy 293
Format Information Encryption 75
Fourier Transform (FT) 8-13, 25-27, 29,
95, 104
Fractional Fourier Transform (FrFT) 8-9,
27, 29
fragile watermark 103, 126
Frame Encryption 75
Free tagging 293
frequency coefficients 99
frequency domain 6, 8-9, 25, 40, 48, 66,
79, 97-98, 103-104, 109, 126
FrFT domain 9

G

Gale–Shapley (GS) mechanism 193, 197-
198, 200, 209
Gaussian Blur 20
Gaussian blurring 21
Gaussian noise addition 20
global thinking 293

H

Histogram Equalization 20, 22
Honest bidding 205-206, 208-209
human auditory system (HAS) 42, 44, 48,
57, 62-63
human psychoacoustic model (HPM) 57
Human Visual/Auditory Systems (HVS/
HAS) 42
human visual system (HVS) 5, 9-10, 19,
42, 44, 56-62, 102-104, 132

I

Image Compression 64, 94, 104
Image Encryption 68, 73-74, 93-94
Imperceptibility 5-7, 21, 25
Industrial Product–Service Systems (IPSS)
194
information hiding 27, 34, 60, 62, 98-102,
104, 126, 128-130
Intellectual Property 2, 30, 32-33, 65, 68,
103, 128, 135, 143, 213-215, 219,
228, 232-235, 237, 239, 241, 245,
249-250, 256-257, 260
intelligence resources 292
inverse FFT (IFFT) 13, 46

J

JFD schemes 86
Joint Fingerprint embedding and Decryp-
tion (JFD) 86, 89
JPEG2000 66, 74, 83-85, 90, 93-94, 120-
122, 128, 153, 159
JPEG compressed image 115, 117, 119
JPEG compression 20, 22, 55, 104, 117
just-noticeable difference (JND) 55-57, 62

K

key generation 98-100, 110-111, 126
Knowledge commons 237-238, 245-246,
251-255, 257
knowledge resources 256, 292

L

linear system theory 10
Linguistic Affinity 269-270, 280
Liquid Fuel 166, 177, 180-184
logistic map 14-17, 25
low bandwidth strategy 41

M

machine learning 99, 101, 126, 128, 130,
160
market institutions 195
maskers 44

Index

- Masking Models 30-31, 39, 42-46, 55, 57, 61-62
- Maximum bidding 201, 203, 205-206, 208-209
- Mechanism design 193-197, 210
- mechanism design theory 195-196
- Modified Patchwork Algorithm (MPA) 47, 53, 59, 62
- Motion Vector Encryption 75-76, 78
- movie theaters 193-194, 209
- multi-layered perceptron model 106-107
- Multimedia Applications 64, 67, 69
- Multimedia Communication 64-65, 70, 81, 88-89, 91
- multimedia content encryption 64-65, 67-69, 89, 91
- multimedia data 64-73, 75-76, 82-83, 85-86, 88
- Multimedia Streaming 64
- multiresolution 1-3, 9-10, 12-16, 20, 25-29, 61
- multiresolution decomposition 12
- ## N
- Nash equilibrium 194, 199-203, 209-211
- National Security Agency (NSA) 141
- Network connectivity 264
- neural network (NN) 57, 63, 98-99, 101, 103-107, 109-113, 115, 117, 123-124, 128-132
- non-copyrightability 216
- NuclearBomb 172, 177, 179, 184
- ## O
- OAEP (Optimal Asymmetric Encryption Padding) 142
- One Time Password (OTP) 151-152
- Ontology Alignment Evaluation Initiative (OAEI) 269-270, 287
- open content licenses 237-238, 240-243, 246, 250-258
- Open Decision 172-174, 180-182, 185-186
- open source unionism 249, 258
- Original contribution 262, 283
- Out-of-Band Authentication (OOBA) 151-152
- output signal 50, 98, 116
- OWL ontologies 189, 270
- owner authentication 7
- Ownership 7, 28, 31, 36, 51, 55, 214-215, 245, 252
- ## P
- P2P architecture 261-264, 284
- P2P communities 262
- P2P environment 262
- P2P network 262-265, 268, 276-277, 284
- P2P semantic coordination 261-262, 277, 285
- P2P systems 262-263, 269, 281, 285
- partial encryption 67, 70, 73-75, 77-78, 81-82, 86, 88-92, 95
- Password Authentication Protocol (PAP) 138, 140, 151, 160, 162-163
- patchwork strategy 41-42, 46-48
- peer autonomy 262
- Peer to Participate 261-262
- Performance rights 241
- Permutation-diffusion algorithms 71
- photo-paper 31
- physical optics 10
- PKCS (Public Key Cryptography Standards) 141
- PMK (Pairwise Master Key) 139
- Policy Propagation 164, 168-169, 171, 189
- popularized classification 293
- possession 31
- price-determination auction 198
- Probability Density Function (Pdf) 51-52, 158, 260, 287
- Propagation task 268, 272, 276-277
- psychoacoustic models 43, 47-49, 53, 57, 61-63, 102-103, 129
- public sphere 237, 251, 258
- pulsed neural network model 106
- ## Q
- Quality Function Deployment (QFD) 194
- query distribution 262

Query Rewriting 164, 174-175, 177-180, 182, 184-187, 189-190, 192

R

radial basis function model 106
 rapid change propagation 262
 RBF network model 106
 RDF statements 188
 Realism 248
 Recurrent model 106
 Replica method 40-41
 Reproduction rights 241
 Res Communes 238, 242-243
 reservation price 197-203, 206-207, 209
 Resource Description Framework (RDF) 166, 168, 188-192, 265
 Res Privatae 238, 242-243
 Res Publicae 238, 242-243
 Robustness 2, 5-7, 20-21, 25, 30-31, 33-36, 39, 41, 45-46, 50-51, 54-57, 60, 70, 101, 103, 117, 119, 126, 128, 147, 152, 157
 Robust watermark 103
 RPK algorithm 67, 73

S

seat allocation 194, 198, 200
 second order neural network model 106
 secure multimedia communication 64-65, 89
 self-marking method 40
 Semantic Communities of Interest 261, 284
 Semantic Web 164-167, 174, 184, 187-192, 269, 283, 285-286
 Semantic Web technologies 164-165, 187, 283
 semi-fragile watermark 103
 service design 194-196, 209-211
 service-dominant logic 194, 211
 Service Engineering 194, 210
 sigmoid model 106
 signal processing 10, 25, 27-28, 30, 46, 48, 59-63, 68, 85-86, 90, 94-97, 129, 131-132, 159, 162

singular value decomposition (SVD) 1, 9-10, 15-18, 25-27
 Social Bookmarking 291, 293, 298, 304-305
 Social Network 249, 251, 254, 283, 290, 292, 303
 Social Tagging 291, 293-294
 Solid Fuel 166, 177, 180, 185
 Space Filling Curves 67, 71, 94
 SpecialBomb 168, 170, 176-177, 179, 182, 184-185
 Spread-spectrum 38-39, 41, 63
 Spread Spectrum Communication 8
 statistical attack 66, 88
 steganographic techniques 2
 steganography 2, 27, 59, 102, 126, 128, 130, 156, 160
 stream ciphers 66
 sui generis right 214
 sweat of the brow 214, 216, 225, 232, 234
 Symmetric Crop 20

T

Technical Protection Measure (TPM) 30-32
 temporal mask 46
 Texture Encryption 75-77
 Transparency 5, 33, 35-36, 39, 43, 57, 156, 219

V

Variable Length Code 78
 VEA algorithm 67
 VEA (Video Encryption Algorithm) 67, 73, 95
 Vector Space Model (VSM) 295-296
 Vickrey–Clarke–Groves (VCG) mechanism 193, 197-199, 209
 Video Coding 67, 91-93
 Video Encryption 68, 73, 75, 93, 95
 Visual cryptography 87, 90, 94, 156, 161

Index

W

watermark 1-10, 15, 17-25, 28-31, 33, 35, 37-41, 43, 45-57, 59, 85-87, 98-99, 101-104, 109-113, 115-117, 120, 122, 124, 126, 128, 131-132
Watermark Detection 4-5, 9
Watermark detection/extraction 5
Watermark detector/extractor 4
Watermark Embedding 1, 4-5, 41, 47-48, 53, 99
Watermark Extraction 19, 98-99, 101, 103, 110-111, 113, 115, 120, 126
Watermarking 1-10, 15, 18-19, 21-22, 25-31, 33-40, 42, 45-46, 48, 50, 52, 55-63, 68, 86-87, 89-94, 98-104, 110, 126, 129-132, 143, 155, 160, 162, 234

wavelet decomposition 40, 57
wavelet transform (WT) 8-9, 12, 25, 29, 57, 104
wavelet tree quantization 9, 29
WePS (Web People Search) 292
Windows Audio-Visual (WAV) 42, 55-56
WIPO Copyright Treatment 215-219, 221-223, 226, 228
World Intellectual Property Organisation (WIPO) 215-219, 221-223, 226, 228, 234, 236

Z

ZIG-ZAG scan 10