

Index

Symbols

3G 162

A

Adaptation 170

adaptation 161

Adaptation and Personalization Techniques and
Para 165

Adaption iv, viii, 160

Adaptive Content Selection 170

Adaptive Hypermedia Overview 165

Adaptive Hypermedia Systems 166

Adaptive Hypermedia Techniques 166

Adaptive Navigation Support 170

Adaptive Presentation 170

agent-based paradigms 161

algorithm, computer 290

algorithm, public-key 282

algorithm, symmetric 281

amplitude estimator 329

annotation 49

application-level quality of service (AQoS)
182

Architecture 169

Artificial Intelligence 161

attack, chosen plain text 283

attack, cipher text-only 282

attack, known-plain text 283

audio

de-clicking 306

audio applications 305

audio de-clicking 309

audio de-hissing 306

authenticate marking 343

Automatic Speech Recognition (ASR) system
60

autoregressive (AR) 307

autoregressive (AR) separation method 310

autoregressive (AR) synthesis filter 323

B

Back-End Layer 172

backward-extrapolated fragment 323

Bayesian network-based multimedia knowledge
representation framework 56

behavioral profile 164

blind watermarking 344

broadband noise (hiss) 306

brute force 295

C

cipher 280

coefficient 309

communication, voice 180

components 169

Comprehensive User Requirements 163

Confusion 298

Conscientiousness 173

content-based retrieval system 50

Content Alteration 170

content authentication 340

content delivery networks 198

Content description 168

Content Presentation 170

Content Provider 172

Content Reconstruction 169

Content reform 168

Content selection 168
 Control of Processing 173
 correspondence latent Dirichlet allocation
 model 53
 cross-correlation coefficients 309
 cross-media relevance model 52
 cryptanalysts 279
 cryptographic algorithm 280
 cryptographic security 268
 cryptography 341

D

Data Storage 167
 decrypting 278–303
 delay tolerance 199
 demand only O(N) 330
 Device/Channel Characteristics 171
 digital
 literacy iii, vii, 31
 multimedia broadcasting (DMB) 34
 rights management (DRM) 40
 digital audio technology 305
 digital image processing 365
 digital information age 339
 digital signature 346
 digital watermarking xi–xii, 339–364
 Discrete Cosine Transform (DCT) 366, 368
 Discrete Fourier Transform (DFT) 366
 discrete Fourier transform (DFT) 326
 discrete wavelet transform 257
 Discrete Wavelet Transform (DWT) 366
 discrete wavelet transform (DWT) 329, 365
 Distance kernel 50
 Domain knowledge 167

E

Earth Movers 50
 education 236
 electronic program guide (EPG) 40, 180
 elements 169
 Emotional Processing 173
 encryption 258
 encryption, and security 260
 encryption, base layer 265
 encryption, data 258
 encryption, FGS 266

encryption, layered 262
 encryption, MPEG4 FGS 262
 encryption, multimedia 258
 encryption, partial audio 259
 encryption, partial image 259
 encryption, partial video 260
 Entry Point 169
 Ephraim and Malah suppression rule (EMSR)
 328
 Extroversion 173

F

Filtering 170
 fine granularity scalability 257
 fingerprinting 358
 finite mixture 51
 forward-extrapolated signal 323
 frames per second (fps) 35
 Front-End Layer 169

G

Gaussian-mixture models (GMM) 57
 Gaussian kernel 50
 genres 49
 Gnutella Peer Network 208

H

H.264/AVC, design characteristics 217
 H.264/AVC error detection algorithm
 iv, ix, 215
 heuristic methods 58
 hidden Markov model 53
 hierarchical aspect model 53
 Hierarchical Models 53
 high definition television (HDTV) 35
 HMM 58
 HSM algorithm 202
 hybrid streaming mechanism iv–v, ix–
 xii, 198–214

I

image watermarking algorithms, and discrete
 wavelets v, xi–xii, 365–392
 Implementation Considerations 172
 information dissemination 339

Index

information retrieval 339
INSPIRE 167
intellectual property (IP) 340
Interaction Monitoring Module 167
International Telecommunications Union (ITU) 184
Internet 340
interpolators 321
inverse discrete wavelet transform (IDWT) 330

K

key-frame images semantic annotation 49
key-frames 48
keyless self-encrypting 278–303
knowledge-based models 49, 56

L

language 240
language education, and wireless collaborative virtual environments v, x–xii, 236–254
latent semantic analysis 52
layer 169
layered scalable coding 257
Learner 167
Learner's Diagnostic Module 167
Learner's Model 167
learning, computer-supported collaborative 238
learning, just-in-time- 236
learning, second language 236–254
Lesson Generation Module 167
Link-Level Manipulation 170
Link Personalization 168
liquid crystal display (LCD) 31
location-based 171
logical subunits 49
logical units 49
long-playing (LP) 305

M

machine translation research 51
maximum a posteriori (MAP) 311
MediaNet 56
media ontology 56

media transmission 242
Middle Layer 171
mobile 162
Mobile Internet 161
mobile multimedia-based service delivery channels 162
mobile phones 180
mobile technologies 161
mobile TV 178–197
mobile TV, cost & pricing 181
mobile TV, delivery method 181
mobile TV services iv–v, ix–xii, 178–197
Mobile User 163
Mobility Emergence 161
mother-wavelet 329
Motion Picture Experts Group (MPEG) 39
MP3 music 259
mPERSONA system 168
Multi-Channel 162
Multi-Channel Web-Based Content Delivery Character 162
multi-protocol label switching (MPLS) 200
multi-scale random field (MSRF) 54
multimedia, and education 237
multimedia-semantic analysis 49
multimedia analysis 47
multimedia data dissemination 199
multimedia transcoding v, x–xii, xi–xii, 255–277, 278–303
multimedia transcoding, and security 255–277
multimodal analysis 59
multiple watermarking 341

N

network-level quality of service (NQoS) 182
network abstract layer (NAL) 256
network models 49, 54
Neuroticism 173
New User Profiling 171
non-parametric signal 329
nonparametric density 50
normalized correlation coefficient 354

O

objective video quality assessment 186
one-time pad 289

Open to experience 173
ownership identification 340

P

PDA's 162, 169
peak signal-to-noise ratio (PSNR) 256
perceptual security 268
Perceptual User Requirements 171
personal
 digital assistant (PDA) 32
 video recorder (PVR) 35
personal digital assistants 239
personal digital assistants (PDAs) 179
Personalization iv, viii, 160, 163, 170
personalization ix, 160
Personalization Challenges 162
Personalization Constraints 162
Personalization Problem 163
Personalization Techniques and Paradigms 165
pitch -based extended AR model 322
polynomial filtering 312
posteriori 329
Presentation Module 167
public-key algorithm 282
public key infrastructure (PKI) 278
pure streaming mechanism (PSM) 201, 205

Q

QoE, layers of 183
quality
 of experience (QoE) vii, 31
 of service (QoS) 34
quality of experience (QoE) 178–197
quality of service (QoS) 178
quarter
 common intermediate format (QCIF) 33
 video graphics array (QVGA) 35

R

random fields 54
real-time paradigms 161
recording/reproduction techniques 305
region node 199
Regulation of emotions 173
relay node 199
resynchronization process 357

retrieval applications iii, vii, 47
RLAN 162
robust copyright marking 343
robustness 353
robust watermarking 343
rotor machines 286

S

satellite 162
scalable video coding 257, 263
scenes 48, 49
Schneier, Bruce 279
second language learning 236–254
secure transcoding scheme 261
security 343
security, cryptographic 268
security, perceptual 268
Self control 173
semantic-multimedia analysis 54
semantic annotation of key-frame images 49
Semantic Multimedia Content 171
semantic structure 48
short-time sinusoid 329
shots 48, 49
side information 349
signal-to-noise ratio (S/N) 317
single class models 49
singular value decomposition (SVD) 53, 368
Speed of Processing 173
statistical approaches 59
streaming point 204
streaming point selection, an illustration 205
stream quality 199
stream rate 203
subjective video quality assessment 184
symmetric algorithm 281

T

telephony 162
tempory structure 48
Three-Dimensional Approach 174
Three-Layer Architecture 169
time-based 171
time to live of the content (TTLC) 202
Traditional User Characteristics 171
training data 49

Index

traitor tracking 360
transaction tracking xi, 339
translation models 51
two-dimensional, multi-resolution hidden Markov models 53

U

Understanding of emotions 173
User Perceptual Preference Characteristics 174
User profile management 168
User Profiling 164
User Requirements 163

V

variable length coding 216
video
 graphics array (VGA) 33
video-on-demand 366
video documents 48
video quality 188
video streaming 216
video telephony 216
virtual reality, and education 237
virtual reality, wireless 239
visual analysis 58
Visual and Cognitive Processing 173
Visual Attention Processing 173
visual video analysis 58

W

W4 162
watermark embedding algorithm 347
watermark Extraction 349
watermarking 344
watermarking, blind 344
watermarking, digital v, xi–xii, 339–364
watermarking, multiple 341
watermarking, robust 343
watermarking scheme xi, 339
watermark recovery 344
waveform substitution schemes 321
Web-Based Content Delivery Characteristics 162
Web -Based Multimedia Content iv, viii, 160
Web-Based Multimedia Personalization 171
Web Personalization 168
white noise 329
wireless collaborative virtual environments, and language education v, x–xii, 236–254
wireless network, and multimedia transcoding v, x–xii, 255–277
WordNet 56
Working Memory 173

X

XOR 287