

Index

Symbols

2-D scanning 2
 3D CAD system 14
 3D CAD technology 14
 3D graphic designer 13, 15
 3-dimensional computer graphic (3DCG) 1, 2, 6, 9
 3-D irregular objects 2, 7
 3D modeling 2, 13, 14
 3D modeling data 13, 14
 3D scanning 2
 3D shape data 1, 6, 7, 9, 10
 3D shape linking 15
 4D CAD 13, 15, 21
 4D data 14
 4D planning 13

A

Access Service Network (ASN) 101, 108
 acoustic model (AM) 189, 190, 191, 192, 193, 194, 196, 197, 199, 201, 202
 acoustic model (AM) adaptation 189, 190, 194
 Address Complete Message (ACM) 104
 adopter category 121, 122, 125, 133
 advanced CAD system 13, 15
 aloha algorithm 69
 ambient intelligence 178, 188
 Application Specific Integrated Circuit (ASIC) 43
 Apriori algorithm 58
 assignment delivery 216, 218, 220
 association rule mining 47, 48, 49, 60, 62
 asynchronous communication 151
 asynchronous interactions 211, 212

attendance history 216, 217, 220, 224
 attendance history management 216, 217, 220, 224
 attendance management 216, 217, 220, 224, 225
 automobile manufacturers 111, 113, 115, 116
 avatar 77

B

bivariate normal distribution 177
 blended learning 203, 204, 206, 207, 213, 215
 blended learning courses 203, 204
 block-diagonal covariance model 197
 Bloom Filters (BF) 27, 28
 Bluetooth interface 42
 body language 158
 business value 86, 87, 88, 89, 90, 91, 92, 93, 94, 95
 Busy Hour Call Attempts (BHCA) 107

C

CAD technology 14
 cepstral mean normalization (CMN) 196
 chasm 120, 121, 126, 127, 128, 130, 131, 132, 133
 ChaTEL 145, 146, 147, 153
 collaborative environment 75, 77, 81
 collaborative works 75, 76, 77, 82
 communication layer agent (CLA) 71
 communication space 137, 138, 139, 140, 141, 147
 complex networks 119, 120, 123, 124, 131, 132, 133
 computer-aided telephone interview (CATI) 89

computer-assisted language learning (CALL)
154, 155, 156, 158, 159, 160, 162, 163,
164
computer-augmented objects 137
Computer-mediated communication (CMC)
154, 155, 156, 157, 158, 159, 161, 162,
163, 164
computer-mediated technology 156
Computer Supported Cooperative Work
(CSCW) 75, 76
Confirmatory factor analysis (CFA) 90
Connectivity Service Network (CSN) 101
construction planning 13, 14, 21
construction planning tool 13
contemporary era 22
coordinate space 3, 5, 6, 9
Corpus of Spontaneous Japanese (CSJ) 189,
190, 191, 192, 196, 199
correlation coefficient 181, 186, 187
Cross-Platform Cluster Graphic Library
(CGLX) 77, 82
cryptographic functions 29
Cyber-IRORI 139

D

data mining 23, 34, 47, 48, 60, 61, 62
Demand Assigned Multiple Access (DAMA)
100
detection threshold 177
diagonal-covariance 189, 199
diagonal covariance model 197, 198
diffusion 119, 120, 121, 122, 125, 126, 127,
129, 130, 131, 132, 133
diffusion pattern 121
digital gap 99, 101
distance education 217
distributed computing 47, 48
distributed diffusion pattern 121
docta ignorantia 141
docta-ignorantia-base 141, 142, 143, 144
double hashing scheme 28
dual attributes 177, 178, 184, 185, 186, 187

E

e-business 86, 88, 89, 90, 91, 92, 93, 95, 96
e-business literature 88

e-business value 88, 90, 91, 92, 93, 95
e-cocreation 135
e-cocreation systems 135
e-commerce 120
economic theory 119, 120, 126
Educational Virtual Environment (EVE) 219,
227
e-learning 158, 164, 203, 204, 205, 206, 207,
208, 209, 210, 211, 212, 213, 214, 215,
218, 219, 227, 228
e-learning courses 209, 210, 211
e-learning system 208, 211, 212
electroencephalography (EEG) 167, 175, 176
electronics manufacturers 111, 112, 113, 115,
116
electronic tag 41, 42, 43, 44
Electronic Visualization Laboratory (EVL) 77
encryption algorithm 28
Euclidean Distance 26
expert knowledge 141
explicit communication 151
eye-to-eye contact 75, 76, 77, 79, 80, 82

F

face-to-face communication 77
face-to-face instruction 204, 209, 212
face-to-face learning 210
face-to-face lectures 203
Field Programmable Gate Array (FPGA) 35,
36, 43, 44, 45, 46
flash-VEP (F-VEP) 167
Flexible Image Transport System (FITS) 80,
84
formal methods 63
full-covariance 189, 191, 199

G

Graph Error Rate (GER) 198, 199
graph theory 123, 124, 133

H

Hardware Description Language (HDL) 44
Head Mount Display (HDM) 76
Hidden Markov Model (HMM) 189, 191, 196,
199, 200, 201, 202

higher educational service 220
high-resolution 75, 76, 77, 78, 80, 82, 83
homomorphic encryption 27
Hue, Saturation, Brightness (HSV) 4
Human Network Activating System (HuNeAS)
142, 143
human performance 177
hybrid scheme 27

I

image analysis 168
image data 177, 181, 182, 183
image quality 165, 166, 167, 168, 174, 175,
176
image quality assessment 166, 167, 174
image recognition theory 165, 166, 167, 174
Immersive Projection Technology (IPT) 77, 83
implicit knowledge 137, 141
independent learning 204, 205, 208, 209, 213
independent learning environment 204
informal communication 135, 136, 137, 138,
139, 140, 141, 147, 148, 151, 152
information system 35, 41
information technology (IT) 86, 154, 164
Initial Address Message (IAM) 103
Integrated Device Manufacturers (IDMs) 111,
112, 113, 114, 115
integration of application data 13
intelligent visual inspection 177
interactive learning 219, 228
interactive learning environment 219, 228
interactive lecture support 216
Interactive Voice Response (IVR) 108
Internet-based innovation 86, 87, 88, 89, 90,
91, 92, 93
Internet of Things 41

J

joint probability 177, 181

K

KM systems 136
knowledge co-creation 136
knowledge discovery 48, 62
knowledge management 135, 136, 141, 152,
153

Knowledge management systems (KM sys-
tems) 135, 136, 141
knowledge sharing 89, 136, 137, 142, 152, 153

L

language learning 154, 156, 157, 158, 161,
163, 164
language model (LM) 189, 190, 191, 192, 193,
194, 195, 196, 197, 199, 200, 201, 202
language model (LM) adaptation 189, 190,
191, 192, 193, 194, 199
language teaching 154, 155, 156, 162, 163, 164
Large Vocabulary Continuous Speech Recogni-
tion (LVCSR) 190, 191, 200, 202
learner communication 156
learning activities 218, 219
learning attitude 203, 204, 205, 209, 210, 213
learning contexts 203, 204
learning courses 203, 204, 209, 210, 211
learning environment 156, 157, 158, 204, 209,
219, 228
learning support systems 219
lecture sequence 218, 222
lecture support 216, 218, 228
life-long learner 213
life-long learning 156
linear mapping 191
linear regression 190, 191, 192, 201
linkage key comparison 30
linkage keys 23, 27, 28, 29, 31, 32
local area network (LAN) 90, 97
Local based services (LBS) 108
low-resolution 75

M

matching keys 25, 30, 32
maximum a posteriori (MAP) 192, 201
maximum-likelihood linear regression (MLLR)
190, 191, 192
maximum likelihood (ML) 191
Mean Opinion Score (MOS) 108
media access control (MAC) 100
Media Gateway Control Protocol (MEGACO)
102
medical data 22
medical research 22, 23

M-government 99, 105
 microcontroller units (MCUs) 113
 Micro Electro Mechanical System (MEMS) 37
 Microsoft Access (MS-Access) 14, 16, 17, 19
 Microsoft Project (MS-Project) 14, 15, 16, 17, 19, 21
 minimum classification error (MCE) 191
 minimum phone error (MPE) 191, 201
 M-learning 99, 105, 218
 mobile-based interactive learning environment (MOBILE) 219, 228
 mobile communication 98, 216, 227, 228
 mobile government 99, 105
 mobile law 99, 105
 mobile libraries 99, 105
 mobile network 98, 104, 105, 106, 107, 109
 mobile phone 216, 218, 219, 220, 221, 223, 224, 225, 228, 229
 mobile phone learning 218, 229
 mobile services 108
 modeling data 13, 14, 17
 Multi Agent (MA) 67, 74
 multiagent simulation 119, 133
 multi-agent system 63
 multi-disciplinarily 165, 166, 174
 multi-pass system 202
 multiple attributes 178, 180, 181, 185, 186, 187
 multi-resolution 168
 Mush Up 41

N

National Communications Commission (NCC) 99, 109, 110
 network-based language teaching (NBLT) 156, 163
 networked information and communication literacy skills (NICLS) 156
 network externality 120, 128, 129, 130, 133
 new media 158
 non-verbal communication 76, 138

O

objective assessment 165, 166, 167, 174
 object scanning 3
 ODBC driver 17, 19

online communication 158
 online course 208, 211, 213
 online learning 156, 163
 Open Data Base Connectivity (ODBC) 17, 19
 Orthogonal Frequency Multiple Access (OFDMA) 99

P

P2P computing system 47, 48, 49, 50, 54, 55, 57, 59, 60
 parallel algorithm 47, 48, 50, 51, 55, 58, 59, 60, 61
 part-of-speech (POS) 189, 192, 193, 195, 197, 200
 pattern reversal visual evoked potential (PR-VEP) 165, 167, 169, 170, 174
 pedagogical strategy 218
 Peer-to-Peer (P2P) 47, 48, 49, 50, 54, 55, 57, 59, 60
 pHotOluck 148, 149, 150
 photosensitive epilepsy (PSE) 166
 private blocking 32
 private matching 28, 32, 33
 private schema 32
 problem-based learning (PBL) 218, 219
 production pipeline 9
 pseudonym hash 28
 psychometric curve 178, 179, 180, 183, 185, 187
 public key encryption 28

Q

quality assessment 166, 167, 174, 175
 quality of services (QOS) 63, 74

R

radial distortion 5
 radio frequency identification (RFID) 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74
 reader module 43, 44, 45
 reader/writer 38, 39, 43, 44, 45
 real-time decision making 65
 Real Time Stream Protocol (RTSP) 102
 Red, Green, Blue (RGB) 4

Index

resource-based theory 86
resource-based view (RBV) 86, 87, 89, 92, 93, 94
RFID card 36
RFID middleware 63, 64, 65, 66, 67, 68, 69, 71, 72, 73, 74
RFID reader 35, 36, 38, 39, 41, 42, 43, 44
RFID system 63, 64, 65, 66, 67, 68, 70, 71, 72, 73, 74
RFID tag 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 63, 68, 69, 70, 71, 72, 73, 74, 142, 147
rule mining 47, 48, 60, 62

S

Scalable Adaptive Graphics Environment (SAGE) 77, 78, 80, 83
scan slit ray line 3, 4, 6, 7
schedule data 13, 15, 16, 17, 18, 19
second language acquisition (SLA) 156, 158, 159, 162
semiconductor distribution system 111, 113, 115, 116
semiconductor distributors 111, 115, 116
semiconductor divisions 112, 114, 115
semiconductor industry 112, 116, 117, 118
semiconductor manufacturers 111, 112, 114, 115, 116
semiconductor market 111, 112, 113, 115
sequence management 218, 222
Session Description Protocol (SDP) 102, 103, 109, 110
Session Initiation Protocol (SIP) 99, 102, 103, 105, 109, 110
session management 216, 223, 228
shared communication 138, 139, 140, 147
shared communication space 138, 139, 140, 147
short examination management 216, 217, 220
SIP border controller (SBC) 105
Software Development Kit (SDK) 43
Solar Magnetic Activity Research Telescope (SMART) 80
space planning 13
space-time code (STC) 100

speaker adaptation 189, 190, 191, 192, 195, 201, 202
speech corpus 190, 191, 199, 202
standard slit ray lines 3, 4, 6
Stream Control Transmission Protocol (SCTO) 102
student learning 203, 204, 205, 207, 208, 213
subjective assessment 166, 167, 176
supply chain management (SCM) 35, 36, 37, 40, 45, 46, 88
supply chain (SC) 35, 36, 37, 40, 45, 46
synchronous distance education 217
synchronous interactions 211

T

tangential distortion 5
technology-based learning 204
tele-immersion system 76
three-dimensional modeling data 14
three-dimensional virtual space 138
Time Division Duplex (TDD) 99
traceability 35, 36, 37, 38, 39, 41, 42, 45
Transport Layer Security Protocol (TLS) 102
typographical error 28

U

user identity (UID) 63, 67, 68, 69, 70, 72

V

value generalization hierarchies (VGH) 27
vertex point 2, 5, 7, 9
Video on Demand (VOD) 204
virtual reality 76, 82
virtual space 138
virtual teams 89
virtual world 77
visual evoked potentials (VEPs) 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176
visual inspection 177, 178, 182, 188
voice communication Audio Library (voCAL) 78

W

Web 2.0 41, 120

web-based systems 220

Web infrastructure 86, 87, 88, 89, 90, 91, 92,
93, 97

web searching 156

Wi-Fi hot zones 99, 101

WiMAX 98, 99, 100, 101, 104, 105, 106, 107,
108, 110

word error rate (WER) 191, 192, 196, 197,
198, 199

word graph 194, 197, 198, 202

Word Graph Density (WGD) 198, 199

word graph rescoring 202