Index

Symbols

3D Studio Max 377

A

adaptability 27, 135
adaptive communication environment (ACE) 346
administration assistant agent 192
agent 180, 367
-based
  computing 2
  electronic health record system (ABEHS) 313
  grid computing 175–191
  messaging 13
  software engineering (ABSE) 26, 197
-oriented
  analysis (AOA) 9
  conceptualization 1–25
  design (AOD) 11
  modeling 2, 6
  programming 4
  software engineering (AOSE) 3
  thinking 2, 4
abstraction 8
behaviours modeling 317
capabilities 4
characteristics 3
cloning 319
communication 13
  and mobility 2
  channel (ACC) 152
language (ACL) 13, 149, 181
  coordination 181
  identification 16
  interaction 11
  interface 197
  management system (AMS) 16, 148
  mobility 14
    model 14
  model 6
  negotiation 181
  organizer 129
  platform (AP) 149
  scheduling 132
  animation 378
anonymizing data 122–123
artificial intelligence (AI) 2, 344
auction 49
  problem 34
  authentication 200
  /authorization agent 192
  authorization 200
automation 290
autonomous
  agent 147
  robot 345
  autonomy 4, 15, 127, 180, 182, 315, 318

B

behavior engine 348, 370, 372
best-response MARL 242–243
bid 51
bidder 50
breadth first search (BFS) 130

C
calendar 122
case-based reasoning (CBR) 275
  recommender system (CBR-RS) 275
CASIS 277
center of gravity (COG) analysis 219
central processing unit (CPU) 129
certification authority (CA) 118
Cham 28
cheaper critique 256
chemical abstract machine 26–47
clinic agent (CA) 320
CodeRed virus 193
combinational auction perspective 48–60
communication protocol 178
competitive ratio analysis 134
component agent system 95–114
compound critique 256
conceptual model 6
constraint satisfaction problem (CSP) 49
control
  flow 30
  thread 30
conversational recommendation agent 253–273
cooperative MARL 239–240
critiquing 253, 256
custom animation 378

D
data traffic 138
debugging 30
denial of services (DOS) 195
denotational semantics 27
dependence-based dynamic scheduling algorithm
  (DDSA) 128
desktop virtual reality 366
diagrammatic notation 10
directional preference 254
Disciple agent 215
distributed
  artificial intelligence (DAI) 147
  computing 121, 147
  memory 30
  problem solving (DPS) 147
  service 16
  supercomputing 179
  valued constraint satisfaction problem (DVCSP)

E
electronic
  commerce (EC) 49, 145
  health record (EHR) 314–315
equilibrium-based MARL 241
expert knowledge 213–237
extensible markup language (XML) 177
extension principle 67

F
false
  acceptance (FA) 201
  rejection (FR) 201
fault tolerant agent system 150
finite Markov decision processes (FMDP) 264
fixing event 51
foraging 277
Foundation for Intelligent Physical Agents (FIPA)
  144
frontware 101
functionality program 29
fuzzy
  logic 61–94
  reasoning 69
  relations 67

G
game engine 373
games technology 364
GAMMA model 28
genetic algorithm 295
George Mason University (GMU) 214
Gnutella 116
graphical user interface (GUI) 118
grid
  -world game 248–249
  computing 175

H
hacking 194
health record system 313–341
heterogeneous agent 197
high-performance compound critique 257
homeland security 366
homogeneous agent 197

I

immersive virtual reality 366
incremental critiquing 258
information
flow 313–341
technology (IT) 192
Institute of Electrical and Electronics Engineers (IEEE) 147
integrated scheduling 291
intelligent
agent (IA) 1, 3, 213, 314
manufacturing system 290
interaction 380
protocols (IP) 4
interactive learning 365
interactivity 315
interface agent 369
Internet 120
protocol (IP) 129, 315
interoperability 15
intrusion detection agent 192
inventory analysis agent (IAA) 300
isolation 31

J

J2EE 1
JAMES 95, 98

K

Kazaa 116
knowledge
container 260
engineer 216
modeling 258
representation 181

L

lab agent (LA) 320
layered grid architecture 177
Linda paradigm 28
load sharing 150
local user preference weighting (LW) 265
logic translation 226

M

M&M project 96
MACH 27–28, 32
macroscopic modeling 313–341
MAITS 198–199
manufacturability analysis agent (MAA) 300
maximum likelihood (ML) 197
mediator 298
meeting scheduler 34
membership function 63
construction 66
memory 30
meta-equilibrium 239, 245
metagame 239, 245
MetaQ 249
minimal
data transfer (MDT) 128
number of migrations (MNM) 127
Miro (middleware for robots) 346–347
mixed integer programming 48
mobile
agent 116–125, 315
architecture 95–114
platform 97
code 102, 111
robot 342–363
state 111
mobility 4, 14, 27, 127, 315
modularity 315
multi-agent
reinforcement learning (MARL) 238–252
simulation 365, 367
system (MAS) 2, 27, 29, 144, 181, 196–197, 214, 275, 288–312

N

narrative engine (NE) 370
NashQ 249
natural language generator 373
negotiation 276
next-generation computing 145
number constraint 52–53

O

object-oriented analysis (OOA) 9
on-demand computing 179
open grid services architecture (OGSA) 176
optimal supply chain 291
order management agent (OrderMA) 299
outsourcing 288
company 301
management agent (OMA) 300
P

patient agent (PA) 320
peer-to-peer (P2P)
  client 117
  network 116–125
performance
  analysis 136
  prediction toolkit (PACE) 184
personal
  agent 57
  data 122
  scheduling management 57
pharmacy agent (PhA) 320
phishing 195
polling 66
port scanning 194–195
pre-mortem-based computer forensics agent 192
process planning agent (PPA) 300
producer-consumer problem 32
productivity 1
programming language 3, 27, 107

Q

quality 16
quasi-likelihood estimation (QLE) 197, 203

R

rationality 27
recommendation cycle 254
recommender system 254, 260
registry server agent (RSA) 299
reinforcement learning (RL) 184, 239–252
  problem (RLP) 264
reliability 16
repetition 262
rescheduling 302
reusability 16, 108
RiskMan (risk management) 364–384
risk management 364–384
robot control paradigm 344
robust intelligent control 342–363
robustness 346
runtime engine 368

S

scalability 16
scalable fault tolerant agent grooming environment (SAGE) 144–174
scanning 194

scheduling 48, 122, 290–291
  agent 298, 300
  problem 50
scripted agent 369
security 16, 108, 118, 192–212
seed selection 292
self-healing 342
self-organization 276, 316, 318
semantic language (SL) 13
sense
  -act (SA) 344
  -plan-act (SPA) 344
servlet specification 108
Shakey 344
shared memory 30
similarity knowledge 261
SimMaster 369, 376
simple network management protocol (SNMP) 127
Slammer virus 193
software
  agent 180
  customization 100
spam 195
sportier critique 257
SpyWare 195
standard set 62
stationary agent 320
storage device card 320
story engine 372
structured thinking 4
supplier management agent (SMA) 298–299
supply chain management (SCM) 288–312, 313–341
survivability 198
swarm intelligence approach 274–287
swarms 316
system log monitoring agent 192

T

T-Cham 27
task
  -scheduling algorithm 128
  allocation 274–287
  decomposition 130
  manipulation 128
  reduction 215–218
temporal
  logic 37
  properties 37
time slot 49
tourism 274
Index

trainee
  agent 369
  interface (TI) 376
transmission control protocol/internet protocol
  (TCP/IP) 117
tuple space 31

U
uniform resource locator (URL) 123
unit critique 256
unstructured thinking 4
user
  feedback 253
  knowledge 260

V
vector quantization 197
Venn Diagram 31
veracity 27
verification 30
virtual
  agent cluster 152
  organization (VO) 176
  reality training 364, 366
virus 193
visual management agent 149
vocabulary knowledge 260
voice authentication 201

W
Web traffic 122
working agent 192
worms 193
WS-Resource 177