CAMBRIDGE
Cambridge University Press & Assessment
978-1-316-51590-7 — The Drive for Knowledge
Edited by Irene Cogliati Dezza , Eric Schulz , Charley M. Wu
Index
More Information

Index

action imitation, 174
active learning, xvii, 54, 77, 78, 103
adaptiveness, xvii, 78
agent–environment interaction, 56
area-restricted search, 237
artificial agent, 53, 206
artificial curiosity, 129
attention control, 68, 217, 218, 219, 221, 224, 225, 228, 233
autoencoder network, 62
autonomous agent, 70
autonomous learning, xvii, 64

Bayesian decision theory, xviii, 125, 126, 128, 131, 132, 135, 137
Bayesian inference, 17, 18
belief inference, 172, 181
belief polarization, xvi, 17
belief updating, 20
belief-based utility, 6, 15
belief-formation, 7
biological agent, xvii, 54
brain network, 206, 268, 269

categorization task, 107
classification task, 104, 112, 115, 158
conceptual task, 152
conditional entropy, 125, 129, 160
curiosity, xv, xvi, 4, 6, 31, 34, 37, 53, 54, 68, 77, 158, 205, 241, 259, 260, 261, 264, 265, 268
curiosity-driven exploration, 55, 56, 67, 69
curiosity-driven learning, 53, 68
curiosity-driven systems, 64, 69, 70

directed exploration, 46, 60, 61, 148, 149, 156, 208
dopaminergic neurons, 198

ecological learning, 82
edgework account of curiosity, 260
empowerment-based exploration, xviii, 159
entropy measures, 103, 109, 115
entropy reduction, 106
episodic memory, 245
error entropy, 107, 108
error learning, 238
executive network, 221, 222
expected entropy, 106
expected free energy, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133
expected free energy minimization, 125
expected information gain, 129, 130, 133, 135, 225, 280
expected value, 129, 151, 172, 198, 229
experimental task, 37
exploration strategies, 63, 83, 147, 149, 153, 157, 161, 162
exploration–exploitation dilemma, 147, 148, 149, 279, 282
external search, 244
external space, xviii, 239

feature attention, 219
foraging mechanisms, 241, 244
foraging strategies, 239, 240, 243
foraging task, 135, 153
free association task, 244

gambling task, 245
goal achievement, 58, 63
goal emulation, 177, 182
goal exploration, 61
goal representation, 58, 60
goal space, 57, 58, 60, 64
goal-conditioned exploration, 149, 162

Hartley entropy, 108, 109, 111
hedonic value, xvi, 44
heuristics, xvii, 102, 114, 148, 149, 156, 282, 283, 284
hidden mental states, 180, 184, 283
human inquiry, 115, 269

individual learning, 70, 172, 174, 175, 179, 285
inferential value, 6
information search, 41, 78, 82, 102, 152, 163, 252, 282, 283
information value, 104, 106, 200

© in this web service Cambridge University Press & Assessment www.cambridge.org

CAMBRIDGE
Cambridge University Press & Assessment
978-1-316-51590-7 — The Drive for Knowledge
Edited by Irene Cogliati Dezza , Eric Schulz , Charley M. Wu
Index
More Information

instrumental value, 5, 172, 175, 178, 179, 184, 202, 279
internal search, xviii, 238, 241, 244
internal space, 238
intrinsic motivation, xvii, 54, 55, 59, 64, 65, 67, 68, 69, 206, 260, 280
intrinsic reward, 11, 57, 63, 162, 172, 179
intrinsically motivated agent, 63

knowledge network, 40, 262, 263, 265, 266, 269

lateral fronto-parietal network, 222
learning algorithms, 53, 54
long-term memory, 240, 246, 249

machine learning, 13, 53, 109
marginal entropy, 160
Markov decision process, 126
memory search, 244, 247, 248, 249, 250, 252
mental-state inference, 170
model-free learning, 63
motivated learning, 58, 67
multi-armed bandit task, 147, 148, 149, 151

network edges, 268
network neuroscience, 267
network nodes, 267
network science, 260, 261, 265
neural network, xviii, 62, 206, 252

observational learning, 171, 175
one-time information-seeking, xvii, 31, 32, 33, 34, 36, 38, 43
open-ended inquiry, 117
optimal Bayesian design, 125, 126, 128, 130, 132, 133, 135, 137, 139
optimal search, 83

parietal neurons, 208
perceptual task, 103
policy imitation, 172, 174, 182, 185
posterior belief, 125, 132, 224
posterior entropy, 106, 132
prefrontal-mesolimbic network, 198
prior belief, 18, 81, 129, 130, 131, 135, 223, 225
prior entropy, 106, 158
prior uncertainty, 225, 227, 228, 233
probabilistic models, xvii
probability gain, 108

quadratic entropy, 109
query outcomes, 106
query selection, 102, 108, 112, 114, 115

random exploration, 65, 82, 148, 150, 151, 153, 155, 157, 161, 208
rational agent, 5, 14, 17, 282
reinforcement learning, 13, 54, 117, 129, 132, 147, 156, 157, 160, 161, 163, 176
representational exchange framework of social learning, 180
restless bandit task, 151
reward information, 207
reward learning, 44
reward value, 35, 39, 43, 45, 46, 82, 198, 206, 245
reward-learning models, 32, 34, 35, 38, 39, 43
reward-seeking, xix, 207, 279
RL agent, 65

saccade task, 229
sample learning, 55, 59
search behavior, xviii, 114, 152, 241, 242, 246, 247, 248, 252
search network, 252
search strategies, 243, 245, 246, 247, 248
selective attention, 78, 218, 222, 229, 233
self-generated goal, 59, 61
semantic memory, 239, 240, 241, 242, 243, 244, 246, 247, 248, 249, 251, 252
semantic network, 243, 248, 251
semantic search, 243, 244, 245, 246
sense-making process, 5, 14
Shannon entropy, 106, 107, 109, 112, 225
shared and independent network, 197
Sharma-Mittal space of entropies, 109
social inference, 170, 179
social learning, xviii, 169, 170, 171, 172, 174, 175, 177, 179, 180, 181, 182, 183, 185, 186, 283
spatial attention, 222
spatial foraging, xviii
spatial search, 82, 87, 239
spatial search task, 82, 87
spatial task, 152

task engagement, 32
task environment, 87, 112
trait curiosity, 44

uncertainty reduction, 106, 195, 202, 206, 207, 208
uncertainty-driven curiosity, 208
uncertainty-guided exploration, 163
unobservable mental states, 170, 172

value inference, 172, 176, 182
variational free energy, 126, 127
verbal fluency task, 245, 250

© in this web service Cambridge University Press & Assessment www.cambridge.org