

Title (en)
NEURAL MODEL FOR REINFORCEMENT LEARNING

Title (de)
NEURONALES MODELL FÜR BESTÄRKENDES LERNEN

Title (fr)
MODÈLE NEURAL D'APPRENTISSAGE PAR RENFORCEMENT

Publication
EP 2939187 A4 20170816 (EN)

Application
EP 13860582 A 20130516

Priority
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Abstract (en)
[origin: CN104823205A] A neural model for reinforcement-learning and for action-selection includes a plurality of channels, a population of input neurons in each of the channels, a population of output neurons in each of the channels, each population of input neurons in each of the channels coupled to each population of output neurons in each of the channels, and a population of reward neurons in each of the channels. Each channel of a population of reward neurons receives input from an environmental input, and is coupled only to output neurons in a channel that the reward neuron is part of. If the environmental input for a channel is positive, the corresponding channel of a population of output neurons are rewarded and have their responses reinforced, otherwise the corresponding channel of a population of output neurons are punished and have their responses attenuated.

IPC 8 full level
G06N 3/04 (2006.01); **G06N 3/063** (2006.01)

CPC (source: EP US)
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Citation (search report)
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• [I] T. C. STEWART ET AL: "Learning to select actions with spiking neurons in the basal ganglia", FRONTIERS IN NEUROSCIENCE, vol. 6, 2, 31 January 2012 (2012-01-31), XP055389198, DOI: 10.3389/fnins.2012.00002
• [I] E. DAUCÉ: "Hebbian reinforcement learning in a modular dynamic network", PROCEEDINGS OF THE 7TH INTERNATIONAL CONFERENCE ON SIMULATION OF ADAPTIVE BEHAVIOR, 13 July 2004 (2004-07-13), pages 305 - 314, XP007913889, ISBN: 978-0-262-69341-7
• [A] J. IGARASHI ET AL: "Real-time simulation of a spiking neural network model of the basal ganglia circuitry using general purpose computing on graphics processing units", NEURAL NETWORKS, vol. 24, no. 9, 30 June 2011 (2011-06-30), pages 950 - 960, XP028298414, DOI: 10.1016/J.NEUNET.2011.06.008
• See references of WO 2014088634A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

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CN 104823205 A 20150805; CN 104823205 B 20190528; EP 2939187 A1 20151104; EP 2939187 A4 20170816

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CN 201380063033 A 20130516; EP 13860582 A 20130516