

CPC COOPERATIVE PATENT CLASSIFICATION

G PHYSICS (NOTES omitted)

INSTRUMENTS

G06 COMPUTING; CALCULATING; COUNTING (score computers for games [A63B 71/06](#), [A63D 15/20](#), [A63F 1/18](#); combinations of writing implements with computing devices [B43K 29/08](#))
(NOTES omitted)

G06N COMPUTER SYSTEMS BASED ON SPECIFIC COMPUTATIONAL MODELS

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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| <p>3/00 Computer systems based on biological models
(analogue computers simulating functional aspects of living beings G06G 7/60)</p> <p>3/002 . {Biomolecular computers, i.e. using biomolecules, proteins, cells (using DNA G06N 3/123; using neurons G06N 3/061)}</p> <p>3/004 . {Artificial life, i.e. computers simulating life}</p> <p>3/006 . . {based on simulated virtual individual or collective life forms, e.g. single "avatar", social simulations, virtual worlds (computer games A63F 13/00; medical simulations G06F 19/00; information retrieval G06F 17/30873; image processing G06T; telecommunication protocols H04L 29/06034)}</p> <p>3/008 . . {based on physical entities controlled by simulated intelligence so as to replicate intelligent life forms, e.g. robots replicating pets or humans in their appearance or behavior (toys or dolls A63H 3/00; industrial robot control G05B 19/00, B25J 9/00; artificial neural networks G06N 3/00; rule based artificial intelligence G06N 5/00)}</p> <p>3/02 . using neural network models (for adaptive control G05B 13/00; for image pattern matching G06K 9/00; for image data processing G06T 1/20; for phonetic pattern matching G10L 15/16)</p> <p>3/04 . . Architectures, e.g. interconnection topology</p> <p>3/0409 . . . {Adaptive Resonance Theory [ART] networks}</p> <p>3/0418 . . . {using chaos or fractal principles}</p> <p>3/0427 . . . {in combination with an expert system}</p> <p>3/0436 . . . {in combination with fuzzy logic}</p> <p>3/0445 . . . {Feedback networks, e.g. hopfield nets, associative networks}</p> <p>3/0454 . . . {using a combination of multiple neural nets}</p> <p>3/0463 . . . {Neocognitrons}</p> <p>3/0472 . . . {using probabilistic elements, e.g. p-rams, stochastic processors}</p> <p>3/0481 . . . {Non-linear activation functions, e.g. sigmoids, thresholds}</p> <p>3/049 . . . {Temporal neural nets, e.g. delay elements, oscillating neurons, pulsed inputs}</p> <p>3/06 . . Physical realisation, i.e. hardware implementation of neural networks, neurons or parts of neurons</p> | <p>3/061 . . . {using biological neurons, e.g. biological neurons connected to an integrated circuit}</p> <p>3/063 . . . using electronic means</p> <p>3/0635 {using analogue means}</p> <p>3/067 . . . using optical means</p> <p>3/0675 {using electro-optical, acousto-optical or opto-electronic means}</p> <p>3/08 . . Learning methods</p> <p>3/082 . . . {modifying the architecture, e.g. adding or deleting nodes or connections, pruning}</p> <p>3/084 . . . {Back-propagation}</p> <p>3/086 . . . {using evolutionary programming, e.g. genetic algorithms}</p> <p>3/088 . . . {Non-supervised learning, e.g. competitive learning}</p> <p>3/10 . . Simulation on general purpose computers</p> <p>3/105 . . . {Shells for specifying net layout}</p> <p>3/12 . . using genetic models</p> <p>3/123 . . {DNA computers, i.e. information processing using biological DNA}</p> <p>3/126 . . {Genetic algorithms, i.e. information processing using digital simulations of the genetic system}</p> <p>5/00 Computer systems utilising knowledge based models</p> <p>5/003 . {Dynamic search techniques, heuristics, branch-and-bound (G06N 5/046 take precedence; for optimisation G06Q 10/04)}</p> <p>5/006 . . {Automatic theorem proving}</p> <p>5/02 . Knowledge representation {(G06N 5/04 takes precedence)}</p> <p>5/022 . . {Knowledge engineering, knowledge acquisition}</p> <p>5/025 . . . {Extracting rules from data (learning in general G06F 15/18)}</p> <p>5/027 . . {Frames}</p> <p>5/04 . Inference methods or devices</p> <p>5/041 . . {Abduction}</p> <p>5/042 . . {Backward inferencing}</p> <p>5/043 . . {Distributed expert systems, blackboards}</p> <p>5/045 . . {Explanation of inference steps}</p> <p>5/046 . . {Forward inferencing, production systems}</p> <p>5/047 . . . {Pattern matching networks, RETE}</p> |
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5/048 . . {Fuzzy inferencing}

7/00 Computer systems based on specific mathematical models

7/005 . {Probabilistic networks}

7/02 . using fuzzy logic ([G06N 3/00](#), [G06N 5/00](#) take precedence; for adaptive control [G05B 13/00](#))

7/023 . . {Learning or tuning the parameters of a fuzzy system}

7/026 . . {Development tools for entering the parameters of a fuzzy system}

7/04 . . Physical realisation

7/043 . . . {Analogue or partially analogue implementation}

7/046 . . . {Implementation by means of a neural network (neural networks using fuzzy logic [G06N 3/0436](#))}

7/06 . . Simulation on general purpose computers

7/08 . using chaos models or non-linear system models

99/00 Subject matter not provided for in other groups of this subclass

99/002 . {Quantum computers, i.e. information processing by using quantum superposition, coherence, decoherence, entanglement, nonlocality, teleportation}

99/005 . {Learning machines, i.e. computer in which a programme is changed according to experience gained by the machine itself during a complete run (neural networks [G06N 3/02](#); knowledge based models [G06N 5/00](#); fuzzy logic systems [G06N 7/02](#); adaptive control systems [G05B 13/00](#))}

99/007 . {Molecular computers, i.e. using inorganic molecules (using biomolecules [G06N 3/002](#))}