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(54) Title: EPISODIC MEMORY WITH A HIERARCHICAL TEMPORAL MEMORY BASED SYSTEM

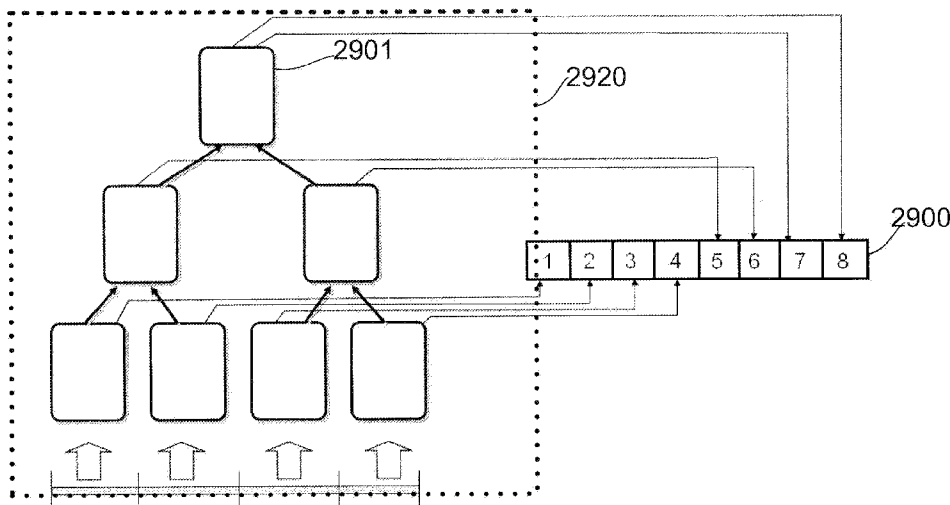


FIGURE 29

(57) Abstract: A hierarchy of computing modules is configured to (i) learn a cause of input data sensed over space and time, and (ii) determine a cause of novel sensed input data dependent on the learned cause. When determining the cause of the novel sensed input data, the computing modules determine likely sequences based on observed inputs. Information identifying one or more of those likely sequences and indexes of observed elements in those sequences may then be stored in external memory to facilitate data compression and/or granularity-based searches.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC(8) - G06F 17/30 (2008.04)
 USPC - 707/6
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 USPC: 707/6

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 USPC: 707/1, 6, 7, 10; 700/1, 90, 91, 93

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 PubWEST(USPT,PGPB,EPAB,JPAB); DialogPRO(Patents); Google Scholar; Google Patents
 Search Terms Used: Artificial Intelligence, machine learning, unsupervised learning, data compression, familiarity, coincidence detection, sequence learning etc.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,714,941 B1 (Lerman et al.) 30 March 2004 (30.03.2004), entire document especially (col 1, ln 7-12, col 2, ln 36-38, col 3, ln 19-20 and col 15, ln 58-67).	1-16
Y	US 6,567,814 B1 (Bankier et al.) 20 May 2003 (20.05.2003), entire document especially (col 13, ln 45-49 and col 14, ln 33-46)	1-16
Y	US 6,400,996 B1 (Hoffberg et al.) 04 June 2002 (04.06.2002), entire document especially col 66. ln 17-36 and col 17, ln 35-44	1-16

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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