(12) UK Patent Application (19) GB (11) 2 411 503 (13) A

(43) Date of Printing by UK Office 31.08.2005

(21) Application No: 0513280.8

(22) Date of Filing: 23.12.2003

(30) Priority Data:
(31) 60438259 (32) 06.01.2003 (33) US
(31) 10393641 (32) 21.03.2003

(86) International Application Data:
PCT/US2003/041239 En 23.12.2003

(87) International Publication Data:
WO2004/063769 En 29.07.2004

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(continued on next page)

(51) INT CL[7]:
G06N 5/02 , G06F 17/50

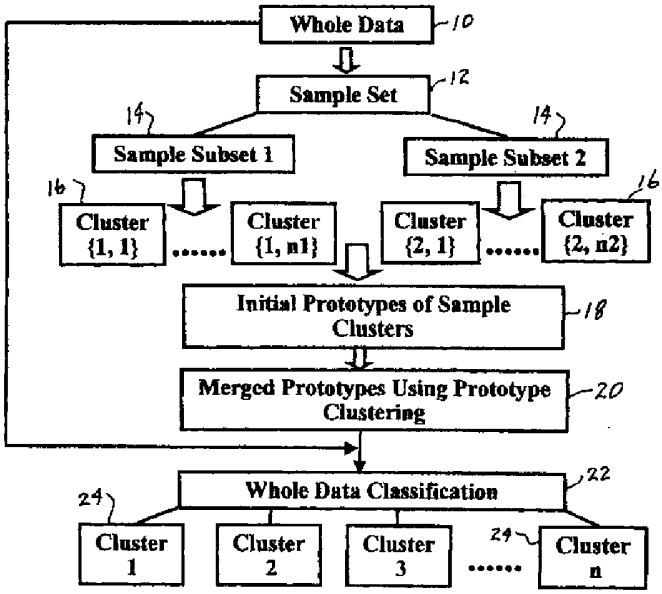
(52) UK CL (Edition X):
G4A AUB

(56) Documents Cited by ISA:
US 5848379 A US 5469404 A
US 5112126 A US 4646240 A

(58) Field of Search by ISA:
Other: U.S. : 706/045

(54) Abstract Title: **Neural network training data selection using memory reduced cluster analysis for field model development**

(57) A system and method for selecting a training data set from a set of multidimensional geophysical input data samples for training a model to predict target data. The input data may be data sets produced by a pulsed neutron logging tool at multiple depth points in a cases well. Target data may be responses of an open hole logging tool. The input data is divided into clusters (16, 24). Actual target data from the training well is linked to the clusters. The linked clusters are analyzed for variance, etc. and fuzzy inference (34) is used to select a portion of each cluster (36) to include in a training set. The reduced set is used to train a model, such as an artificial neural network. The trained model may then be used to produce synthetic open hole logs in response to inputs of cased hole log data.



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GB 2411503 A continuation

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