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(54) **METHOD AND APPARATUS FOR GENERATING A DATA CLASSIFICATION MODEL USING INTERACTIVE ADAPTIVE LEARNING ALGORITHMS**

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(57) **ABSTRACT**

A data classification method and apparatus are disclosed for labeling unknown objects. The disclosed data classification system employs a learning algorithm that adapts through experience. The present invention classifies objects in domain datasets using data classification models having a corresponding bias and evaluates the performance of the data classification. The performance values for each domain dataset and corresponding model bias are processed to identify or modify one or more rules of experience. The rules of experience are subsequently used to generate a model for data classification. Each rule of experience specifies one or more characteristics for a domain dataset and a corresponding bias that should be utilized for a data classification model if the rule is satisfied. The present invention dynamically modifies the assumptions (bias) of the learning algorithm to improve the assumptions embodied in the generated models and thereby improve the quality of the data classification and regression systems that employ such models. A dynamic bias may be employed in the meta-learning algorithm by utilizing two self-adaptive learning algorithms. In a first function, each self-adaptive learning algorithm generates models used for data classification. In a second function, each self-adaptive learning algorithm serves as an adaptive meta-learner for the other adaptive learning algorithm.

24 Claims, 9 Drawing Sheets

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