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NEONATAL INTENSIVE CARE UNIT FOR ANALYZING USING GENETIC MEDIUM

[1] A.Ruthrabharathi, [2] D. Chitra, MCA., M.Phil.,
[1] PG Scholar, [2] Assistant professor,
[1, 2] Department Of Computer Science,
[1, 2] Government Arts College, (Autonomous), Salem.

ABSTRACT: Analyze and improve the health care of the baby from the weak point. By continuous monitoring of the baby we can improve the health and find the defect of the baby. The condition of baby can be detected more accuracy and quick manner then only we can able to terminate the problems and give a better solution. By using the genetic algorithm, we can able to find the various complex problem, the solution of the problem can be identify and optimize the function for the required problem. If the complexity of the problem is in heavy function, the solution of the problem can be identify and give the accurate solution for the complexity.

Keywords: [Artificial Neural Fuzzy Inference System (ANFIS), Internet of Things (IOT), Guidelines Element Model (GEM) , Genetic Algorithm (GA), Adaptive Very Fast Decision Rules(AVFDR), National Provider Identifier (NPI), Healthcare Common Procedure Coding System (HCPCS).]

1. INTRODUCTION

Data mining, the extraction of hidden predictive information from large databases, is a powerful new technology with great potential to help companies focus on the most important information in their data warehouses. Data mining tools predict future trends and behaviors, allowing businesses to make proactive, knowledge-driven decisions. The automated, prospective analyses offered by data mining move beyond the analyses of past events provided by retrospective tools typical of decision support systems. Data mining tools can answer business questions that traditionally were too time consuming to resolve. They scour databases for hidden patterns, finding predictive information that experts may miss because it lies outside their expectations. Most companies already collect and refine massive quantities of data. Data mining techniques can be implemented rapidly on existing software and hardware platforms to enhance the value of existing information resources, and can be integrated with new products and systems as they are brought on-line. When implemented on high performance client/server or parallel processing computers, data mining tools can analyze massive databases to deliver answers to questions such as, "Which clients are most likely to respond to my next promotional mailing, and why?"

This white paper provides an introduction to the basic technologies of data mining. Examples of profitable applications illustrate its relevance to today's business environment as well as a basic description of how data

warehouse architectures can evolve to deliver the value of data mining to end users.

To best apply these advanced techniques, they must be fully integrated with a data warehouse as well as flexible interactive business analysis tools. Many data mining tools currently operate outside of the warehouse, requiring extra steps for extracting, importing, and analyzing the data. Furthermore, when new insights require operational implementation, integration with the warehouse simplifies the application of results from data mining. The resulting analytic data warehouse can be applied to improve business processes throughout the organization, in areas such as promotional campaign management, fraud detection, new product rollout, and so on.

The ideal starting point is a data warehouse containing a combination of internal data tracking all customer contact coupled with external market data about competitor activity. Background information on potential customers also provides an excellent basis for prospecting. This warehouse can be implemented in a variety of relational database systems: Sybase, Oracle, Redbrick, and so on, and should be optimized for flexible and fast data access.

2. RELATED WORK

P.Hofmann, P. Lohmann says A Strategy for Quality Assurance of Land-Cover/Land-Use Interpretation Results with Faulty or Obsolete Reference Data General not a perfect representation of the reality. They always contain errors due to the method used for its production or simply the difficulty that in many cases the land use is not equivalent to the land cover and semantic knowledge of an interpreter has to be used to derive the finally wanted object type. In order to assess the reliability of a particular land use map procedures for quality control and checking the geometry and thematic contents of the mapped objects have to be applied. In this paper use of reference data (thematic maps), which have been produced in another context using class descriptions which slightly differ from the class descriptions used in the actual land use mapping and which have been generated some years before the actual mapping. It can be shown, that it is possible to use this “obsolete” data for accuracy checks, because means are implemented to find those areas in the reference data, which are out-of-date or which have been falsely assigned to the class which is inspected.

J. Randall Curtis, MD, MPH, Deborah J. Cook says Intensive care unit quality improvement: A “how-to” guide for the interdisciplinary team describes Quality improvement is an important activity for all members of the interdisciplinary critical care team. Although an increasing number of resources are available to guide clinicians, quality improvement activities can be overwhelming. Therefore, the Society of Critical Care Medicine charged this Outcomes Task Force with creating a “how-to” guide that focuses on critical care, summarizes a) identify local motivation, support teamwork, and develop strong leadership; b) prioritize potential projects and choose the first target; c) operationalize the measures, build support for the project, and develop a business plan; d) perform an environmental scan to better understand the problem. Quality improvement efforts require scientifically sound performance measures. Just as in clinical research, sufficient resources must be allocated to ensure a robust data collection, analysis, and reporting system. Leadership is crucial to the success of both the overall program and each project within it. Individual quality improvement projects and the entire quality improvement program should learn from its successes as well as failures.

Kajal Singh India Divya Sharma ,Shipra Aggarwal A Real Time Patient Monitoring System based on Artificial Neural Fuzzy Inference System (ANFIS) It implementation of Artificial Neural Fuzzy Inference Systems (ANFIS) would enable the system to work as a smart healthcare system that decides the priority by itself based on the collected

psychological parameters from the sensor nodes. The model consists of sensors to collect vital data from patient's body which is then transmitted by Wi-Fi to a central HUB where fuzzy logic converts the raw data in linguistic variable which is trained in ANFIS to get the status of patient. The system generates an alert message after analysis of patient's vital, The proposed model can be enhanced researching more in mobile and lightweight body sensors to provide more accurate readings to fuzzy so that it provides a more accurate and reliable data for analysis. Further advancement in such a model could be achieved with implementation of another growing technology, Internet of Things (IOT). It would enable the system to talk to various other devices and interfaces ensuring better communication of analysis. Carolyn McGregor1 , Christina Catley1 and Andrew James2 says A Process Mining Driven Framework for Clinical Guideline Improvement in Critical Care says A structured approach to knowledge discovery of new condition onset pathophysiologies in physiological data streams. The approach is based on temporal abstraction and mining of physiological data streams to develop process flow mappings that can be used to update patient journeys; instantiated in critical care within clinical practice guidelines. We demonstrate the framework within the neonatal intensive care setting, where we are performing clinical research in relation to pathophysiology. It Easily represent the distinct activities and provide a rich set of information needed for the instantiation within real-time clinical care, the ad hoc nature of the event sequence was a challenge to represent, as it is with any business process modeling technique. We have commenced work on extensions to the PaJMa model to better support the event based nature of the ICU setting. The Guidelines Element Model (GEM) has been proposed as a mechanism for knowledge representation of clinical guidelines. Mohammed Abdul Khaleel1 , Sateesh Kumar Pradhan2 , G.N.Dash3 , F. A. Mazarbhuiya4 says A Survey of Data Mining Techniques on Medical Data for Finding Temporally Frequent Diseases this paper says Time dimension in medical data is considered as a fundamental variable for the analysis of frequency of diseases that prevail with respect to time. Classical frequent pattern mining cannot utilize the time interval between events and therefore it is not suitable for exploring the temporally frequent diseases. The wake of data mining techniques, especially medical data mining techniques, the health care domain has made significant progress in using the technologies in prevention and diagnosis of disease. With respect to data mining techniques Heidi Bjering1and Carolyn McGregor says A Multidimensional Temporal Abstractive Data Mining Framework says The research presented in this paper has certain limitations that require further research and development. Monitoring data from patient monitoring typically has invalid data known as artifact, for example when the patient is moved, or the transducers attached to the body is moved. Further development has commenced to incorporate artifact identification and appropriate processing of that data within the data mining. Currently the storage of the data stream data within the TAMDDM framework is not standard based, as such standards are absent. The monitoring devices generate enormous amounts of data and better standards based storage methods are currently being investigate The balance on the balanced scorecard a critical analysis of some of its assumptions in this paper balanced scorecard is intended not only as a strategic measurement system but also as a strategic control system which can align departmental and personal goals to overall strategy. This paper first examines the extent to which there is a cause-and-effect relationship among the four areas of measurement suggested the financial, customer, internal- Ž business-process and learning and growth perspectives. The paper then examines, whether the balanced scorecard can link strategy to operational metrics which managers can

understand and influence. An evaluation system which does not integrate all relevant variables cannot be expected to show valid results. Driving Business Transformation through a Process-centric Approach says Transformation Initiative in 2008 to set up a pragmatic and sustainable framework to equip business owners with the expertise and support to improve business efficiency and the agility to respond to changes. Leveraging the Enterprise Architecture discipline, the initiative is designed to facilitate business integration, systems implementation and alignment to MINDEF's strategic goals. To achieve these goals, an enterprise business process management approach to business transformation is adopted. The article examines the key technology that capitalizes on business process models for faster and more agile IT systems implementation. The initiative was started to encourage and institutionalize business transformation as a prevalent practice in MINDEF. To maximize the value of our IT investments, it is crucial that MINDEF continues to move forward progressively with business innovation, improvement and integration to enhance the operational efficiency of the organization.

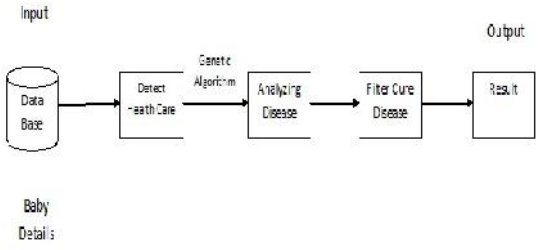
Petr Kosina and Joao Gama says Handling Time Changing Data with Adaptive Very Fast Decision Rules says AVFDR prunes rules that detect drift. This explicit change detection mechanism provides useful information about the dynamics of the process generating data, faster adaption to changes and generates compact rule sets. The experimental evaluation shows this method is able to learn fast and compact rule sets from evolving streams in comparison to alternative methods. It requires only one scan of data and provides any-time classification model that is capable of fast adaptation to changes in data. The adaptation is achieved by exploiting the modularity and independence of single rules within the rule set and assigns an error based on a drift detection method to each rule. Whenever the quality of a rule decreases significantly, the rule is removed from the set.

Albert Bifet and Ricard Gavalda says Adaptive Parameter-free Learning from Evolving Data Streams says Hoeffding Tree, an incremental decision tree inducer for data streams, and use as a basis it to build two new methods that can deal with distribution and concept drift: a sliding window-based algorithm, Hoeffding Window Tree, and an adaptive method, Hoeffding Adaptive Tree. Our methods are based on using change detectors and estimator modules at the right places we choose implementations with theoretical guarantees in order to extend such guarantees to the resulting adaptive learning algorithm. A main advantage of our methods is that they require no guess about how fast or how often the stream will change; other methods typically have several user-defined parameters to this effect. It proposed three variants of Hoeffding Adaptive Tree algorithm, a decision tree miner for data streams that adapts Contrary to CVFDT, they have theoretical guarantees of performance, relative to those of VFDT. In our experiments, Hoeffding Adaptive Trees are always as accurate as CVFDT and, in some cases, they have substantially lower error. Their running time is similar in HAT-EWMA and HAT-INC and only slightly higher in HAT-ADWIN, and their memory consumption is remarkably smaller, often by an order of magnitude.

3. PROPOSED WORK

Using this genetic algorithm, analyzing the health care study that implementation of a clinical decision support system and rectify the problem of baby, by which search the problem and optimize the health care problem using genetic algorithm.

4. ARCHITECTURE DIAGRAM



The genetic algorithm is a heuristic method of finding approximate solutions to optimization problems. This algorithm incorporates the evolutionary theory of the survival of the fittest, along with crossover and mutation, to create successive generations of individuals that evolve to a better solution. They're often used in fields such as engineering to create incredibly high quality products thanks to their ability to search a through a huge combination of parameters to find the best match. For example, they can search through different combinations of materials and designs to find the perfect combination of both which could result in a stronger, lighter and overall, better final product.

5. SYSTEM MODEL

MODULES

1. ANALYZING DATA SET
2. DETECT THE HEALTHCARE
3. FILTER THE DETECTING FACTS
4. TERMINATE DEFECT

6. MODULE DESCRIPTIONS

1. ANALYZING DATA SET

This public data set contains information about services and procedures, the set of clinic details and the set of hospital details provided to Medicare beneficiaries by physicians and other healthcare professionals, with information about utilization, payment, and submitted charges organized by National Provider Identifier (NPI), Healthcare Common Procedure Coding System (HCPCS) code. To collect and perform the basic analytic logic collection of data.

2. DETECT THE HEALTHCARE

Some prenatal tests are offered to all women as part of routine care in pregnancy. Other prenatal tests might be done because there is a greater chance that the baby could have a problem (eg physical or intellectual difficulties). Many parents are concerned that their baby will have some sort of birth defect. Although most babies will be healthy, some problems can be found before birth, but not all. Some prenatal tests are offered to all women as part of routine care in pregnancy. Other prenatal tests might be done because there is a greater chance that the baby could have a problem. You may choose to have a test because you want to be reassured that your baby does not have the problem, or to prepare for a baby with problems.

3. FILTER THE DETECTING FACTS

Using Genetic algorithms Starts from a population of randomly generated individuals, and is an iterative process, with the population in each iteration called a generation. In each generation, the fitness of every individual in the population is evaluated; the fitness is usually the value of the objective function in the optimization problem being solved. The genetic algorithm is a heuristic method of finding approximate solutions to optimization problems. This algorithm incorporates the evolutionary theory of the survival of the fittest, along with crossover and mutation, to create successive generations of individuals that evolve to a better solution.

4. TERMINATE DEFECT

To improve clinical processes by implementing a Clinical Decision Support System to improve quality of care. We know that defects can be prevented. But, we also know that women can increase their chances of having a healthy baby by managing health conditions and adopting healthy behaviors before becoming pregnant. Make a PACT, a commitment to yourself, to get healthy before and during pregnancy by actively trying to plan ahead, avoid harmful substances, choose a healthy lifestyle, and talk with your healthcare provider. Some infections that a woman can get during pregnancy can be harmful to the developing baby and can even cause birth defects. Some easy steps to prevent infections include frequent hand-washing, cooking meat until its well done, and staying away from people who have an infection.

CONCLUSTION

Using this genetic algorithm, analyzing the health care study that implementation of a clinical decision support system and rectify the problem of baby, by which search the problem and optimize the health care problem using genetic algorithm. The genetic algorithm is a heuristic method of finding approximate solutions to optimization problems.

FUTURE WORK

In future work we will show how the process mining phase can generate GEM representations which can then be represented within an extended PaJMa model. To assess quality improvement in health care, the impact of changes to the clinical guidelines need to be assessed through either clinical trial or other metrics.

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