INFORMATION SEEKING IN ONLINE HEALTHCARE COMMUNITIES: THE DUAL INFLUENCE FROM SOCIAL SELF AND PERSONAL SELF

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ABSTRACT

The use of online healthcare communities to acquire health-related information and reduce uncertainty over illnesses is currently hampered by the lack of understanding of how health information-seeking behavior can be stimulated in such environments. By drawing upon the theoretical notion of social self and personal self, and conducting a field survey among 101 online healthcare community users, this study investigates how social identity in online healthcare communities and individual users' perceived disease severity jointly influence the health information-seeking propensity. This study contributes to the literature on health information seeking by investigating the influence of social self (social identity), personal self (perceived disease severity), and their interplay in online communities. The findings can guide healthcare providers and community managers in formulating strategic plans for promoting health information-seeking behavior.

INTRODUCTION

Knowledge-representation is the field of artificial intelligence that focuses on designing computer representations that capture information about the world that can be used to solve complex problems. The justification for knowledge representation is that conventional procedural code is not the best formalism to use to solve complex problems. Knowledge representation makes complex software easier to define and maintain than procedural code and can be used in expert systems. For example, talking to experts in terms of business rules rather than code lessens the semantic gap between users and developers and makes development of complex systems more practical.

Knowledge representation goes hand in hand with automated reasoning because one of the main purposes of explicitly representing knowledge is to be able to reason about that knowledge, to make inferences, assert new knowledge, etc. Virtually all knowledge representation languages have a reasoning or inference engine as part of the system. A key trade-off in the design of a knowledge representation formalism is that between expressivity and practicality. The ultimate knowledge representation formalism in terms of expressive power and compactness is First Order Logic (FOL). There is no more powerful formalism than that used by mathematicians to define general propositions about the world. However, FOL has two drawbacks as a knowledge representation formalism, ease of use and practicality of implementation. First order logic can be intimidating even for many software developers. Languages which do not have the complete formal power of FOL can still provide close to the same expressive power with a user interface that is more practical for the average developer to understand. The issue of practicality of implementation is that FOL in some ways is too expressive. With FOL it is possible to create statements (e.g. quantification over infinite sets) that would cause a system to never terminate if it attempted to verify them.

RELATED WORK

Similar sorts of decisions have to be made with all the representation technologies, because each of them supplies only a first order guess about how to see the world: they offer a way of seeing but don't indicate how to instantiate that view. As frames suggest prototypes and taxonomies but do not tell us which things to

select as prototypes, rules suggest thinking in terms of plausible inferences, but don't tell us which plausible inferences to attend to. Similarly logic tells us to view the world in terms of individuals and relations, but does not specify which individuals and relations to use. Commitment to a particular view of the world thus starts with the choice of a representation technology, and accumulates as subsequent choices are made about how to see the world in those terms.

PROPOSED SYSTEM:

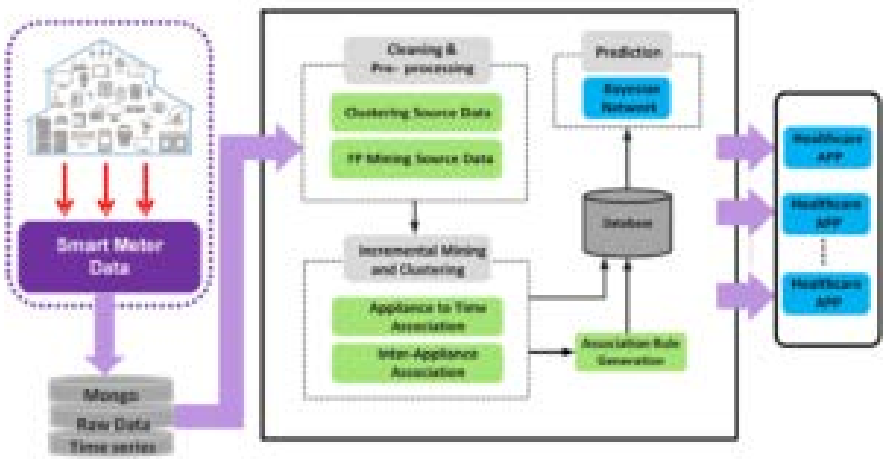
This paper proposes the use of energy data from smart meters installed at homes to unveil important activities of inhabitants. Our study assumes that there are mechanisms in place to protect people's privacy from being shared or measured for unlawful uses. The proposed model observes and analyzes readings from smart meters to recognize activities and changes in behavior. Disaggregated power consumption readings are directly related to the activities performed at home. This paper proposes frequent mining and prediction model to measure and analyze energy usage changes sparked by occupants' behavior. The data from smart meters are recursively mined in the quantum/data slice of 24 hours, and the results are maintain cross successive mining exercises.

We also utilize the Bayesian network, a probabilistic graphical model, to predict the use of multiple appliances and household energy consumption. The proposed model is capable of short-term predictions ranging from next hour up to 24 hours and longtermprediction for days, weeks, months, or seasons.

ADVANTAGES

- We propose a human activity pattern mining model based on appliance usage variations in smart homes.
- The model which utilizes FP-growth for pattern recognition and k-means clustering algorithms.
- This is not only important to determine activity routines, but also, when utilized by health care application.
- Is capable of detecting sudden changes of human activities that require attention by a health provider.
- We apply a Bayesian network for activity prediction based on individual and multiple
- Appliance-to-appliance and appliance-to time associations, thus recognizing activities that occur in certain patterns more accurately.

SYSTEM MODEL:



Learning Accuracy

CONCLUSION

Mining health examination data is challenging especially due to its heterogeneity, intrinsic noise, and particularly the large volume of unlabeled data. In this paper, we introduced an effective and efficient graph-based semi-supervised algorithm namely SHG-Health to meet these challenges. Our proposed graph-based classification approach on mining health examination records has a few significant advantages. Firstly, health examination records are represented as a graph that associates all

relevant cases together. This is especially useful for modeling abnormal results that are often sparse. Secondly, multi-typed relationships of data items can be captured and naturally mapped into a heterogeneous graph. Particularly, the health examination items are represented as different types of nodes on a graph, which enables our method to exploit the underlying heterogeneous subgraph structures of individual classes to achieve higher performance. Thirdly, features can be weighted in their own type through a label propagation process on a heterogeneous graph. These in-class weighted features then contribute to the effective classification in an iterative convergence process. Our work shows a new way of predicting risks for participants based on their annual health examinations.

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