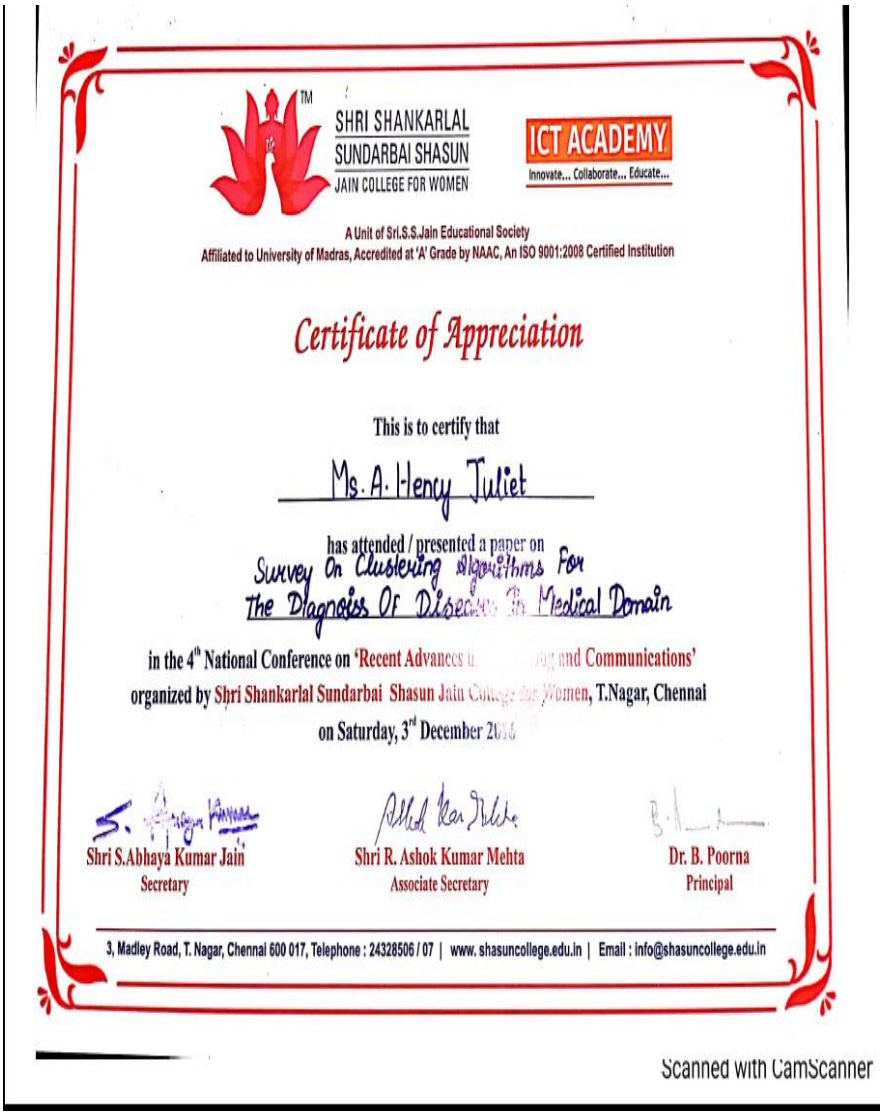

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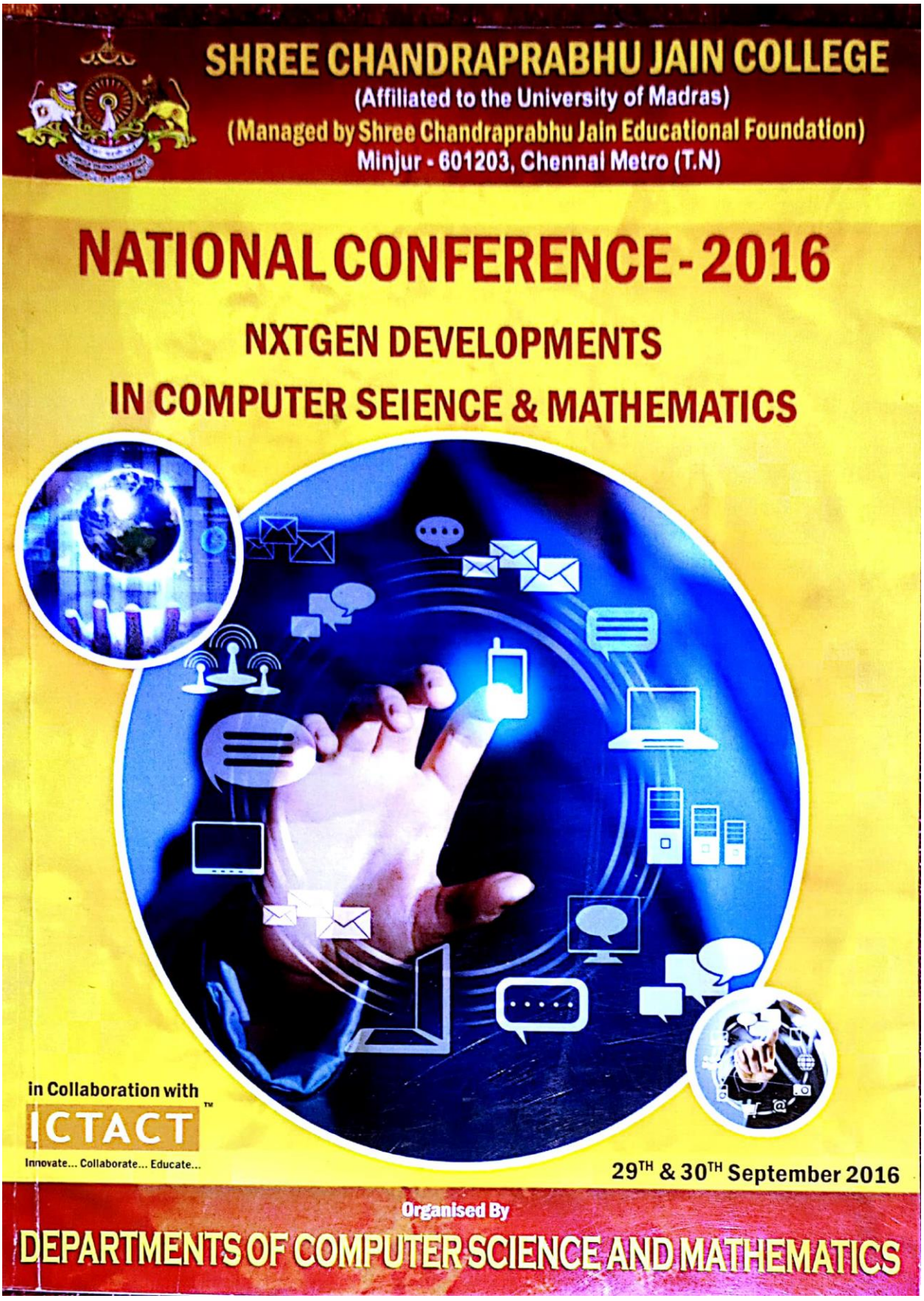
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In addition to a growing number of available communication link options, devices such as smartphones and wireless tablets now include ever increasing processing power, display capabilities, and the integration of more physical sensors. These increasing device capabilities are opening up new avenues of research into the broader use of smart phones for a wider variety of tasks and applications. The ability of the wireless device to incorporate personal body area networks and additional sensors coupled with the device's processing and real-time communications capability is spawning exciting research into new medical applications. The contextual awareness of wireless devices is also increasing based both on physical sensors and user data enabling new applications and higher utility for existing applications

ANALYZING THE RISK FACTORS OF ENDOMETRIAL CANCER USING DATA MINING TECHNIQUE

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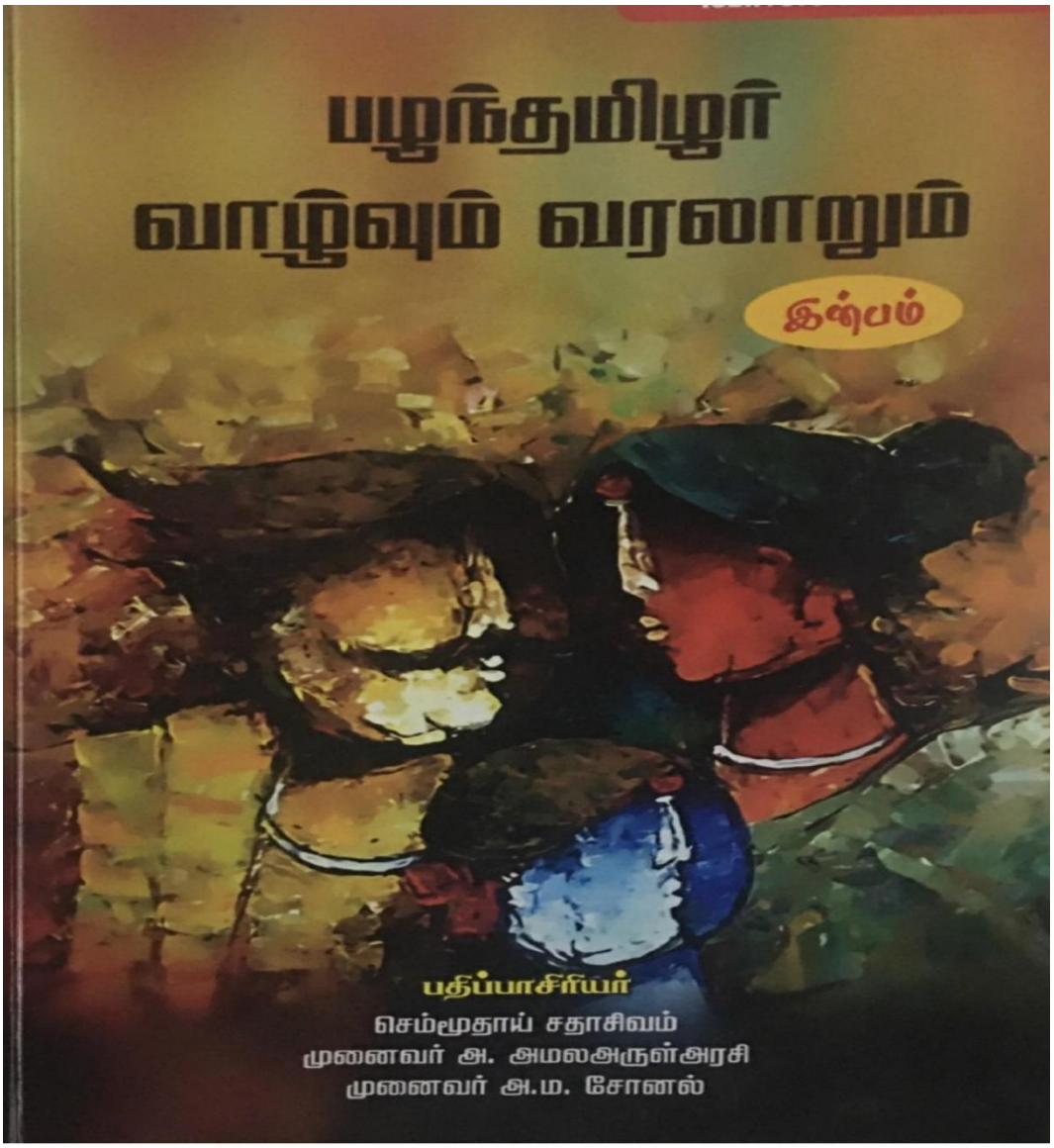
ABSTRACT

Data Mining plays an important role for uncovering new trends in healthcare organization which in turn helpful for all the parties associated with this field. This paper explores the utility of Data mining technique in health domain. Cancer is one of the major problem today, diagnosing cancer in earlier stage is still challenging for doctors. Identification of genetic and environmental factors is very important in developing novel methods to detect and prevent cancer. Endometrial cancer is the most common female gynecologic malignancy, is typically a curable disease. It is the most common of all cancers and is the leading cause of cancer deaths in women worldwide. In this paper we present an analysis of the risk factors associated with endometrial cancer using association rule mining. Here we used the Apriori algorithm to find associations. Women who are significantly overweight, hypertension, high estrogen level are increased risk of certain cancers. Obese and overweight women have two to four times the risk of developing this disease than women of a normal weight, regardless of menopausal status.

Keywords: Data mining, Association, Endometrial, Apriori, healthcare.



114. வள்ளுவமும் வேளாண் தொழிலும்

து.ஜெமிலா மார்ஷல்

முனைவர் பட்ட ஆய்வாளர்
இலயோலா கல்லூரி
சென்னை.

உலகத்துப் பழம்பெரும் மொழிகளில் தொன்மை சான்ற மொழியாம் நம் தமிழ் மொழியில் உள்ள அற இலக்கியங்களுள் முதன்மையானது திருக்குறளாகும். வேளாண் தொழிலின் சிறப்பை உணர்ந்த வள்ளுவப் பெருந்தகை இரண்டாயிரம் ஆண்டுகளுக்கு முன்பே தம் நூலில் உழவுக்கென தனி அதிகாரத்தைப் படைத்துள்ளார். வள்ளுவத்தில் வேளாண் தொழில் குறித்த சான்றுகள் மேலோங்கி இருப்பதை ஆராய்வதாக இக்கட்டுரை அமைகிறது.

நாகரீகத்தின் ஆரம்பம் - வேளாண் தொழில்

சங்ககாலம் மற்றும் சங்கம் மருவிய காலகட்டத்தில் சமூகத்தின் நல்வாழ்வுக்கு உதவும் தொழில்களைச் செய்த பல்வேறு தொழில் பிரிவினர் இருந்துள்ளனர். குறிஞ்சி நிலத்தவர் குறவர் என்றும், முல்லை நிலத்தவர் ஆயர் என்றும், மருத நிலத்தவர் உழவர் என்றும், நெய்தல் நிலத்தவர் பரதவர் என்றும், பாலை நிலத்தவர் எயினர் என்றும் பெயர் பெற்றனர். இவ் ஐவகை நிலத்துள் சிறப்பாக நாகரீகம் பிறந்த இடம் மருத நிலம் என்று கருதப்படுகிறது. மருதநிலம் நீர்வளம் நிறைந்த இடம். இங்குதான் விவசாயமும் தொழில் வளர்ச்சியும் பெருகின. ஓதல், ஈதல், உழவு, நிரைகாத்தல், வணிகம், ஏனையோர்க்கு உதவுதல் என்பன வேளாளரின் தொழில்கள் என்பதனை இரு மூன்று மரபின் ஏனோர் பக்கமும் என்ற தொல்காப்பிய நூற்பா மூலம் அறிய முடிகிறது.

தலையாய தொழில் - வேளாண் தொழில்

சங்க காலத்தில் தொழில் காரணமாக எழுந்த பிரிவுகள் பின்பு சாதிகளாக மாற்றம் பெற்றன. அரசர், அந்தணர், வணிகர், வேளாளர் எனும் நான்கு பிரிவுகளுள் நான்காம் பிரிவினராக கருதப்படும் வேளாளர்களே உழைக்கும் மக்களாவர். மனிதர்களுள் நிலவிய இப்பாகுபாட்டை வள்ளுவருக்கு முன்பு வாழ்ந்த சான்றோர்கள் இயல்பாக ஏற்றுக் கொண்டாலும் வள்ளுவர் ஏற்றுக் கொள்ளாது. அனைவரும் சமம் என்ற கொள்கையை வகுத்தார்

"சுழன்றும் ஏர்ப்பின்னது உலகம் அதனால்
உழந்தும் உழவே தலை" (1031)

என்ற குறட்பாவில் உலகில் எத்தன்மையினரும் உணவுண்ண உழவனின் கையை எதிர்பார்த்தே காத்திருக்கின்றனர், பல தொழிலையும் செய்து சுழன்று பார்த்தாலும் முடிவில் ஏர்த்தொழிலுக்குப் பின்தான் நிற்கிறது

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Predicting the Risk Factors for Endometrial Cancer using Data Mining

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Abstract— Data mining act as an imperative part for uncovering new idea in healthcare organization which is supportive for all the parties related with this field. This paper analyses the effectiveness of Data mining technique in healthcare domain. Cancer is one among the foremost crisis today, diagnosing cancer in earlier period is still challenging for doctors. Detection of hereditary and ecological aspect is very essential in developing novel methods to perceive and stop cancer. Endometrial cancer is one of the most general feminine gynecologic malignancy, is naturally a curable disease. It is the most wide-ranging of the entire cancers and the main reason for the cancer fatality in women worldwide. This paper also presents an study of the risk factors related with endometrial cancer by means of association rule mining. Here we applied Apriori algorithm to uncover the associations. Women who are extensively heavy weight, hypertension and more estrogen level are increased risk of certain cancers. Heavy weight, hypertension, and more estrogen level were drastically related with an increased risk of endometrial cancer.

Keywords— Data mining; Association; Endometrial; Apriori healthcare.

1. Introduction

Data mining is the method of extracting the data from the huge dataset [1]. Data mining techniques are used to operate on large volumes of data to discover hidden patterns and relationships helpful in decision making [2]. Various algorithms and techniques like Classification, Clustering, Regression, Artificial Intelligence, Neural Networks, Association Rules, Decision Trees, Genetic Algorithm, Nearest Neighbor method etc., are used for knowledge discovery from databases. These techniques and methods in data mining need brief mention to have better understanding

Endometrial cancer is a cancer that occurs from the endometrium, the inside layer of the uterus or womb. It is the effect of the anomalous development of cells that have the ability to occupy or spread to other parts of the body [3]. During a woman's menstrual cycle, hormones cause the endometrium to change [4]. During the early part of the cycle, before the ovaries release an egg, the ovaries create hormones called estrogens. Estrogen causes the endometrium to condense so that it could cultivate an embryo if pregnancy occurs. A woman's hormone stability plays a part in the development of most endometrial cancers. Many of the risk factors for endometrial cancer influence estrogen levels [4].

Classification is a two step method consisting of knowledge step used to make a classification model and a categorization step used to calculate the class labels for a given data [1]. It serves as a descriptive modeling, to distinguish between objects of unlike classes. A Classification model can also serve in predictive modeling, to calculate the class label of unidentified records. This process is mainly fitting for describing data sets with dual or diminutive types. It is a methodical approach to construct a classification models from the input data set [5]. It includes Function, Bayesian, Meta-learning, Lazy, Rule-Based, Decision Tree and Miscellaneous classifiers. Each method utilizes a learning algorithm to recognize a model that best fits the liaison between the attribute set and class label of the input data. An important point of the learning algorithm is to construct the representation with generalization facility i.e., the representation precisely forecast the class labels of formerly unidentified instances.

Clustering is finding groups of objects such that the objects in one group will be similar to one another and different from the objects in another group [6]. In healthcare domain, clustering has been used to group patients according to their symptoms.

Association analysis is the discovery of association rules showing attribute-value conditions that occur frequently together in a given set of data. Association analysis is widely used for market basket or transaction data analysis. Decision trees are commonly used in operations research, specifically in decision analysis, to help identify a strategy most likely to reach a goal.

1.1 APRIORI Algorithm

Association rule generation is usually split up into two separate steps:

- Minimum support is applied to find all frequent item sets in a database.
- These frequent item sets and the minimum confidence constraint are used to form rules.

1.1.1 Useful Concepts

To select interesting rules from the set of all possible rules, constraints on various measures of significance and

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