



# E-Commerce with Price Comparison, Price Alert and Fake Review

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**Abstract:** Acquiring sensitive info from the user in some malicious sites that looks like the legitimate webpage and that they do a sort of criminal activity that's referred to as phishing within the electronic world. associate degree assailant will use this type of phishing or fraud by using such websites, that could be a severe risk to internet users for his or her personal and confidential information. So, within the field of e-banking and e-commerce, this act makes a threat for all webpage users. during this paper in the main discerning the various options of legitimate, suspicious and phishing websites. These options are fed to the machine learning algorithms that are constitutional hence are used for comparison and to ascertain the accuracy of the algorithmic rule. Algorithms utilized in this comparison are J48, Naïve Bayes, random forest and supply Model Tree (LMT) are used and them accurately to predict the web site legitimacy is calculated. Also, the most effective algorithmic rule among completely different algorithms will be selected. during this paper, we'll compare the ends up in the 2 ways that. Firstly, we discover the best algorithmic rule by mistreatment the comparison of the various attributes like properly Classified Instances, Incorrectly Classified Instances, Mean absolute error and letter of the alphabet statistics. Secondly, the accuracy of those algorithms can analyse with completely different parameters like TP Rate, FP Rate, Precision, Recall, F-Measure, MCC, mythical creature space and People's Republic of China space that's visualized within the chart. the chosen algorithmic rule makes the web site analysing method automated. Before creating payment on any e-commerce web site, this prediction model can be used for determinative the legitimacy of that web site.

## 1. INTRODUCTION

Some malicious people created these phishing web pages that are fake pages which look like the same as real web pages. These fake web pages have highly visual similarities with real pages to cheat their victims also some of the fake web pages look like same as real web pages. A number of careless internet users easily cheated by this type of fake pages. These fake pages will collect the personal information of their victims this information could be their credit card number, password, bank account and also some important information that could be more confidential. In internet crimes, phishing web page is looking for a new crime other internet crimes authors see firstly like hacking and viruses. And authors see in recent years that the number of phishing websites increasing rapidly.

Phishing is social engineering and criminal act of stealing victims personal information by surfing a fake web pages that look like the same as real or legitimate web pages here the receptionist will ask you to enter your personal information such as your account number, username, and password and attackers can use this information easily to steal a common persons also those careless persons who will never check the accuracy and demand of the website and rapidly go and enter their information in this fake website attacker will stick there is a big problem for them also for their family also victims suffer from money, another kind of assets and also very personal and confidential data. Shortly authors can say that online phishing is broadly launched social engineering attack that creates more serious issues in today's online e-banking and e-commerce. Phishing is the word derived from the website phishing this is the vibration of the word fishing. The idea behind the phishing website is same as the fish hunting like an attraction is shown to the internet users and when user come and want to grab this opportunity then the user will inculcate in the trap from the owner of the phishing website.

As authors know that most of the cases attraction will be in the form of the instant messaging site or email which will take the user to the aggressively bad phishing websites. It can say that phishing is a different style of crime in the online network where the owner of the phishing website can easily take the information which he wants from the victims with the usage of this phishing website. The commonly main phishing websites in the face of known banks, online tradesman



and credit card corporations and so on the have many faces in e- banking also in e-commerce in online shopping attackers can trap any person more easily. Due to this type of phishing websites, it will make a negative impact on overall organizations, marketing efforts, customer relationships, and revenues. Also, these phishing attacks will cost companies hundreds of dollars per attack and this cost will be associated with the brand image and customer confidence that will be ruin due to this type of phishing attacks. The main purpose is to check the potential use of automated data mining techniques in detecting the complex problem in phishing websites. Prediction authors use in closely related to classification problem where the class attributes and in this case is the degree of phishing is the main attribute using a data mining technique. Classification techniques use in phishing website using different features such as spelling errors, long URL's prefix, and suffix and personalization etc. these features can be collected from different websites and also from using different online tools.

## 2.THEORY

The proposed approach comprises all required steps and methods for identifying and extracting product records from arbitrary e-shop websites which are ;

- (1) crawling the e-shop website,
- (2) identifying and extracting the product records within the e-shop pages and
- (3) identifying and extracting the product attributes within the product records.

### A. CRAWLING

For crawling the URIs of the e-shop websites we have analysed our set of e-shops for the occurrence of product lists within the different link levels of the websites. Levels are:

- Level 0: Homepage of the e-shop website.
- Level 1: Web pages of the e-shop which can be directly accessed by a link on the Homepage.
- Level 2: Web pages of the e-shop which can be accessed by following two links from Homepage.
- Level 3: Web pages of the e-shop which can be accessed by following three links from Homepage.

### B. PRODUCT RECORD IDENTIFICATION AND EXTRACTION

For the identification and extraction of product records within e-shop websites we use a special approach called LightExtraction. The algorithm takes the e-shop URIs crawled in the first step as described in Section IV-A as input. LightExtraction renders the Web page of the actual URI and runs through all elements inside the HTML page tree.

### C. PRODUCT ATTRIBUTE IDENTIFICATION AND EXTRACTION

For processing the collected data in further steps it is essential to assign the extracted attributes to pre-defined product features to be aware of the meaning of the extracted attributes. Thus, information about the format of the product attributes or common knowledge of the structure of product records and especially about the product attributes inside the records can be exploited for extracting the product attributes. The proposed approach identifies and extracts the product attributes by exploiting common knowledge about the format and content of the attributes which was collected by analysing the 50 e-shop websites.

## 3.RELATED WORK

This paper<sup>[1]</sup> contributes a completely unique approach for the automated identification and extraction of product worth information from capricious e-shop websites that is freelance from the e-shops' language and also the product domain. The approach uses tag path analysis and it exploits the common structure of product records inside e-shop websites for characteristic product records and extracting their attributes. The approach was created freelance from a product domain or a language. The adequacy of the approach for the identification and extraction of product records from e-shop websites was shown in associate degree experiment wherever the attributes of the entire product of 2 totally different e-shop websites are extracted.

This paper<sup>[2]</sup> proposes smartphone application named Virtual Cart for facilitating a straightforward and convenient technique for purchasing in looking malls. The hybrid application Virtual Cart will even extend friendly customer service for twenty-four hours daily with relation to locating, purchasing and shipping client desires. There area unit 2 blessings of it: 1st no ought to exchange the queue for a protracted time in malls simply for scanning the item, second there'll be no scope for the frauds that happen in mobile looking. The transactions that will turn up oft with the outlets cloud are going to be created secure.

The aim of the paper<sup>[3]</sup> is to developed the 'modified SentiWordNet algorithm' that chiefly is on machine learning is employed to urge the options of the merchandise. These features will then be keep and may be created out there for the users whereas they're looking for the merchandise. This approach offers the rating at the tip for every feature of the



merchandise and so recommends the customers to travel with the one that has the best rated product in a very explicit feature. Whenever the priority of the options is chosen, then the products that have highest positive scores therein features would be counseled for the user and thus helps in shopping for the merchandise in line with their requirements. The system helps the makers of the merchandise to understand their feedback of the merchandise and so helps them improve the actual options of the merchandise and develop merchandise that are consistent with the requirements of the client.

This paper<sup>[4]</sup> proposes a essentially completely different model-based methodology that expressly isolates anomalies rather than profiles traditional points. The Isolation Forest or iForest, builds associate degree ensemble of iTrees for a given information set, then anomalies are those instances that have short average path lengths on the iTrees.

In this paper<sup>[5]</sup>, they introduce an internet data processing solution to e-commerce to find hidden patterns and business methods from their client and internet information, propose a new framework supported data processing technology for building a Web-page recommender system, and demonstrate how data processing technology is effectively applied in associate e-commerce atmosphere. This paper describe a framework that aims at solution to e-commerce to find the hidden insight of their business and internet information.

In this paper<sup>[6]</sup>, they gathered filtered and unfiltered on-line reviews for many hotels within the Charleston space from yelp.com, extracted part-of-speech options from the information set, applied three classification models, and compared accuracy results to related works. Yelp.com is one in all the largest on-line review sites. It uses a filtering algorithmic rule to sight pretend reviews. However, the algorithm may be a secret. during this work, they collected reviews from yelp.com for one hundred random hotels within the Charleston space, and labeled filtered reviews as real and unfiltered reviews as pretend, extracted part-of-speech options, trained and tested the information set, engineered a model and compared results to connected work. From the collected information, extracted part-of-speech features, and applied 3 completely different classification models to identify pretend on-line reviews. They found that highest accuracy was achieved by applying the Multinomial Naïve mathematician classification model to our dataset.

This paper<sup>[7]</sup> contributes a really distinctive approach for the automated identification and extraction of product worth information from impulsive e-shop websites that is freelance from the e-shops' language and then the merchandise domain. The innovation of the approach compared to gift approaches and tools for net data extraction and price comparison is that the independence from the language and so the product domain of the e-shops, the straightforward configuration of the extraction tasks in addition as a result of the power to automatically identify the merchandise records among a complete e-shop site. The approach uses tag path analysis. The approach was created freelance from a product domain or a language.

In this paper<sup>[8]</sup> principally discerning the different options of legitimate, suspicious and phishing websites. These options area unit fed to the machine learning algorithms that are inherent maori hen area unit used for comparison and to examine the accuracy of the algorithmic program. the most purpose is to examine the potential use of machine-driven data processing techniques in detecting the complicated drawback in phishing websites. Authors have used four algorithms i.e. Naïve Thomas Bayes, J48, Random forest and Logistic Model Tree for our experimentation. Then these algorithms were enforced mistreatment the maori hen data processing technique to research algorithmic program accuracy that was obtained once running these algorithms within the output window.

In this paper<sup>[9]</sup>, discuss the various techniques for information extraction employed by different authors that takes the user needed information from a group of sites. internet information extraction could be a technique of extracting user required info from websites. The extraction method indexes info on {the internet|the online|the net} employing a web crawler. The paper introduces some techniques on the market for internet information extraction. a number of these techniques have their own recall and exactitude rates. This indicates the potency of extraction method.

In his paper<sup>[10]</sup> introduces two similarity search algorithms PathSim and SimRank. Today most of the networks involved are heterogeneous networks. The increase in the trend of Data Analytics has motivated in learning data mining algorithms and machine learning languages. Many applications use data mining techniques in order to find the similarity between two objects. Similarity search in such complex situations has been increasing. Instead of using the traditional methods, new methods which are SimRank and PathSim can be used. Based on the time complexity, PathSim can be better than SimRank, but the conclusion is to select the algorithm based on different scenarios. PathSim can be implemented more efficiently than SimRank.

In this paper<sup>[11]</sup>, The mystery searching exercise and interviews recommend that PCWs don't take into account it simple to incorporate cross-border comparisons in their operations, nor are they extremely intended to surmount the difficulties.



PCWs are presently not taking part in an on-the-spot role in fostering cross border searching as a result of they are doing not commonly list businesses in another country. Clearly if consumers don't see cross-border traders within the ranking, then customers are unlikely to choose one. PCWs are presently failing to supply an on-the-spot entry-point for cross-border e-commerce, except in cases wherever retailers actively target customers in alternative Member States, during which case they usually develop a web look front within the native language. They therefore serve an indirect role as contact points through that a distributor establishes a presence in an exceedingly country that's completely different from wherever it's primarily based. Our mystery searching exercise has indicated that this is often a typical approach for specialised retailers with a pan European approach that use PCWs as a selling tool for his or her national on-line look fronts. During our mystery searching exercise, mystery shoppers noted the situation of the distributor, and found a astonishingly high range of offers from retailers that were registered in countries apart from the Member State to that the PCW was targeted (in twenty first of trials the retailer with rock bottom correct provide listed by the PCW provided a address outside this Member State). The robust growth of E-commerce in Europe in recent years implies that the net is currently a natural place for several Europeans to show to try and do their looking. multiplied curiosity combined with the hunt for good deals and distinctive merchandise additionally mean that Europeans square measure shopping for additional and additional from foreign sites.

In this paper<sup>[12]</sup> have a tendency to gift a survey of consumers' E-commerce habits in twelve European countries. The survey reveals that 240 million customers in these European countries bought product on-line during the past year, which over half E-commerce customers have bought on-line from abroad at it slow. In total, Europeans in these countries bought product on-line to a price of virtually 170 billion euros. In order to know the trends, driving forces and client desires that square measure driving developments in European E-commerce, it may be a decent plan to take a better consider the Nordic region – along with the United Kingdom and Deutschland, the foremost mature markets in Europe. the rationale why we have a tendency to square measure currently, for the primary time, business enterprise a eu E-commerce report is that the fast growth in E-commerce and a rise in interest in the Nordic region and Europe from E-commerce.

This report<sup>[13]</sup> could be a guide for anyone UN agency desires to reach an oversized target cluster with robust purchasing power. The report contains facts concerning every country to provide you good prospects for fulfilment . Among other things, you'll be able to examine however much Germans pay on E-commerce, what sells best within the Nordic region and how British people value more highly to pay once shopping on-line.

This paper<sup>[14]</sup> describes a call web that integrates a hybrid neighbourhood search algorithmic program for determining the value of sale item once it's placed for mercantilism in the net. the vendor would supply the condition and variety of years of usage of the used item, and also the intelligent system would provide period of time search on connected things within the marketplace and counsel a value for mercantilism. data processing techniques square measure explored for economical process of a colossal quantity of information within the info tables. additionally, the mercantilism system would even have the intelligence of recommending things or product to a possible client given the previous purchase patterns. connected things to a recently purchased item would additionally be steered with associate degree aim of providing friendly reminders and recommendations in order that the user of the web site would acquire a pleasant mercantilism expertise. The fast development of data technology has facilitated a chic mercantilism surroundings within the net. There are several mercantilism platforms these days however there's no smart platform designed for direct consumer-to-consumer mercantilism primarily for university students, to shop for and sell their product and services on to alternative students among their university or city. Such a desire arises in an exceedingly social network wherever things ought to be listed or changed simply with a little community. The famous websites like Amazon or eBay square measure too world in nature and doesn't support the direct mercantilism of products and services among the scholars in an exceedingly tiny social network like a campus surroundings. There square measure presently several on-line mercantilism platforms within the welcome by university students WHO simply need a straightforward and nonetheless intelligent and easy platform for mercantilism on field -commerce relationships will usually be modeled employing a bipartite graph. One a part of this chart is created up of customers and therefore the alternative half consists of e-shops (dealers). Edges show client activity once visiting websites of various on-line stores. These links, however, enter on-line price comparison sites (PCS, comparators, shopbots), such as Heureka. PCS makes it straightforward to match the costs of the desired product in numerous on-line stores. These comparative pricing not solely show the value in numerous e-shops, but also the assessment of the relevant e-shop created by customers. The issues that this paper addresses area unit the strategy chosen by the pricing comparator for getting into the market, once it's price closing down on-line valuation comparison services, etc. In this paper we have a tendency to use network analyzes and simulation strategies to model network dynamics to handle these problems. Simultaneously with the event of e-commerce, related business applications are developed and plenty of new approaches are wide used, for instance, as a recommendation system for varied on-line services or others. Online value comparators, which permit comparison of costs in varied on-line stores, belong to sure-fire applications. These sites are referred to as value comparisons, sales points or retailers on the net. patrons on-line use



them to urge price info or to urge user references for the relevant deals. They cut back vendee search prices and facilitate them build decisions by providing value info that's seldom found in the context of physical retail purchases. So far there area unit terribly restricted studies concerning e-commerce market with a network science perspective. Our study could be a multi-disciplinary analysis intersected by selling, economy and network science. we have a tendency to believe that the study of a real e-commerce market network can cause any research which will reveal the hidden mechanism of economic and social organization. supported our empirical analysis of ecommerce market, we have a tendency to modify and expand organic process mechanisms of network evolving model. Our model cannot only reveal however the structure of e-commerce market within the presence of value comparison website takes form.

In this paper<sup>[15]</sup>, we have discussed different fake reviews detection techniques that are based on unsupervised, supervised as well as semi supervised methodologies. Now a days the usage of Internet and online marketing has become very popular. Millions of products and services are available in online marketing that generate huge amount of information. Hence, it's difficult to find the best suitable services or products compatible to the requirement. Customers directly take decision based on reviews or opinions that are written by others based on their experiences. In this competitive world any person can write anything, this raises the number of fake reviews. Various companies are hiring people to write fake positive reviews about their services or products or unfair negative reviews about their competitors' services or products. This process gives wrong input to the new customers who wish to buy such items and hence we need a system to detect such fake reviews and remove them. In this paper we discuss various supervised, unsupervised and semi supervised data mining techniques for fake review detection based on different features. The fake and authenticate reviews are compared against two baselines. Baseline 1 contain different feature like character per word, length of review in words, first person singular words, lexical diversity, brand references, first person plural words, negative emotion word and positive emotion words. Second baseline contains verbs, adverbs, adjective, words per sentence, character per word, modal verbs, all punctuation, first person plural words, first person singular words, spatial words, function words, temporal words, emotiveness, visual words, feeling words, aural words, negative emotion words and positive emotion words. Second baseline gives more accurate result compared to first baseline. Due to rapid development of the internet, the size of the reviews of the items / products increases. These huge amounts of information are generated on Internet; there is no analysis of quality of reviews that are written by consumer. Anyone can write anything which conclusively leads to fake reviews or some companies are hiring people to post reviews. Some of the fake reviews that have been intentionally fabricated to seem genuine, capability to identify fake online reviews are crucial.

This paper<sup>[16]</sup> used literature learning technique, metaphysical analysis and real looking expertise to debate the inner and external atmosphere of Dangdang.com. By implementing SWOT analysis. Twenty-first century is AN modern era, and the e-commerce boomed with the fast development of economy. The internet has greatly influenced people's work and life, and E-commerce has drawn the eye of the society. As a prominent representative of e-commerce B2C model, Dangdang.com has speedily developed throughout a decade, whose operation model and promoting ways ar value learning. This paper points out the opportunities, threats, strengths and weaknesses of Dangdang.com. Based on the actual scenario and promoting principles, the paper puts forward some suggestions of selling combine ways from the aspects of product, price, place, promotion and client relationships for Dangdang.com, that may even be helpful for other e-commerce websites. The new century is AN modern era. together with the infrastructure of the web in our country change with each passing day, the users' web pages ar increasing bit by bit and the network technology upgrade is progressing, the Internet is influencing people's life also as work. Ecommerce bit by bit caused the widespread attention of enterprises and society. The fast development of ecommerce has driven the expansion of on-line looking. According to the Ministry of Commerce statistics, 2011 our country s e-commerce dealings size was getting ready to six trillion yuan, and has up to thirteen within the value share, wherein, the network retail total quite 750 billion yuan. Online shopping has shown nice potential, and e-commerce are a new growing purpose for the economy within the future.

The paper<sup>[17]</sup> presents a value comparison system of on-line product to point out all the doable prices of product for purchasers. above all, the projected system develops a multithreaded crawler to implement internet information crawl, and uses Lucene, a really standard full-text search library, to implement the info compartmentalization and retrieval. Lots of on-line searching systems (OSS) area unit proposed and used much thanks to the made opportunities provided by the net. the normal OSS, however, essentially provides basic browsing via class and "advanced" keyword with none analysis. The experimental results demonstrate that the projected system improves searching efficiencies for the shoppers in an exceedingly versatile and advanced approach. Recently, several on-line searching systems (OSS) area unit proposed and used much thanks to the made opportunities provided by the net. Also, OSS is being developed to allow shoppers to possess a lot of convenient and a lot of interactive platform throughout their searching method. In particular, the technology implementation in associate analysis of the same commodities from the various websites will be one of the strongest influencing factors in stimulating shoppers shopping motivation. From the attitude of analysis concerning the commodities, the paper designed associated enforced an innovative on-line product value comparison system (PCS),



incorporated the popular internet programme technologies, as well as internet crawling, internet knowledge extraction, knowledge retrieval. The projected system provides the shoppers the similar products' value information from the various on-line searching malls, thus assists the shoppers to realize the normal searching goal that "shop around, rational consumption" in an exceedingly short approach. The experimental results demonstrate the projected system improves searching efficiencies for the shoppers in an exceedingly versatile and advanced approach.

This paper<sup>[18]</sup> provides a methodology and model for assessing the quality requirements and customer satisfaction measures adopted by website for meeting these requirements based on a user-centered approach. The main goal is to establish quality requirements to arrange the list of characteristics that might be part of a quantitative evaluation, comparison and ranking process. Future work includes the benchmarking process against exemplary or well-known sites, such as Amazon. The website plays a significant role in the overall marketing communication mix of e-commerce organizations. It complements direct selling activities, presents supplemental material to consumers, projects an organization image, and provides basic information to customers. Therefore, it is critical for e-commerce organizations to understand customer requirements, and then to improve the quality of website accordingly. In this paper, the main quality characteristics of ecommerce website were described. Then, a multi-level deductive analysis model by utilizing the principle of quality function deployment (QFD) based on the "voice of customer" was proposed, i.e., website customer requirement deployment which translates website customer requirements into the request for every process of website, so as to apply the idea of customer satisfaction into the design and management system of ecommerce website. Finally, the validity of the model was verified through a case study. In recent years, the issue of e-commerce quality has become one of the important research fields in management science, which mainly focus on the quality of website and service, the methods to improve the quality of e-commerce, etc. It includes high-quality content that can attract customers, high-quality technology that can deal with long-distance transaction, high-quality service support that can promote online bargain and sell, high-quality operation mechanism that can assure the safety of e-commerce, and so on. In e-commerce era, MIS and marketing need a means of assessing the effectiveness of a website.

This paper<sup>[19]</sup> based on website customer requirement deployment. Ecommerce, conjointly referred to as electronic commerce marketing communication mix of e-commerce organizations. It complements direct selling activities, presents supplemental material to consumers, projects an organization image, and provides basic information to customers. Therefore, it is critical for e-commerce organizations to understand customer requirements, and then to improve the quality of website accordingly. In this paper, the main quality characteristics of ecommerce website were described. Then, a multi-level deductive analysis model by utilizing the principle of quality function deployment (QFD) based on the "voice of customer" was proposed, i.e., website customer requirement deployment which translates website customer requirements into the request for every process of website, so as to apply the idea of customer satisfaction into the design and management system of ecommerce website. Finally, the validity of the model was verified through a case study. In recent years, the issue of e-commerce quality has become one of the important research fields in management science, which mainly focus on the quality of website and service, the methods to improve the quality of e-commerce, etc. It includes high-quality content that can attract customers, high-quality technology that can deal with long-distance transaction, high-quality service support that can promote online bargain and sell, high-quality operation mechanism that can assure the safety of e-commerce, and so on. In e-commerce era, MIS and marketing need a means of assessing the effectiveness of a website.

In this paper<sup>[20]</sup>, the main quality characteristics of ecommerce website were described. The e-commerce industry is rapidly emerging all marketing communication mix of e-commerce organizations. It complements direct selling activities, presents supplemental material to consumers, projects an organization image, and provides basic information to customers. Therefore, it is critical for e-commerce organizations to understand customer requirements, and then to improve the quality of website accordingly. The main goal is to establish quality requirements to arrange the list of characteristics that might be part of a quantitative evaluation, comparison and ranking process. Future work includes the benchmarking process against exemplary or well-known sites, such as Amazon.

#### 4.CONCLUSION

As the demand for the mobile looking is increasing the necessity for a lot of secure, safe and reliable dealing is of utmost demand. Smartphones, that became Associate in Nursing important a part of today's life, have reduced all the efforts that square measure needed for looking. There are 2 blessings of it: 1st no got to substitute the queue for a protracted time in malls only for scanning the item, second there'll be no scope for the frauds that happen in mobile shopping. The transactions which will ensue oftentimes with the retailer's cloud is going to be created secure. the trend of shopping online has come back to remain. Online shops are open twenty-four hours of the day and might be accessed from anyplace wherever there's a web affiliation. the benefit and convenience of shopping online can invariably lure a

lot of customers thereto. However, consumers must be alert and responsive to the risks concerned and take additional care once looking on-line. Due to the openness and fight of the net market, most business invariably attempt to maintain the very best customary of security yet as a user centred web site to spice up their business.

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