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	Authors:	Sukhbir Singh, Dharmender Kumar	
	Paper Title:	Frequent Pattern Mining Algorithms: A Review	
1.	<p>Abstract: Mining frequent patterns is one of the most important concepts of data mining. Frequent pattern mining has been a highly concerned field of data mining for researcher for over two decades. Several algorithms have been developed for finding frequent itemsets from the databases. The efficiency of these algorithms is a major issue since a long time and has captured the interest of a large community of researchers. In Literature review it is found that great effort has been made in this area so far to development of efficient and scalable algorithms for frequent itemset mining in various types of databases due to their importance in various fields. In 1993, R. Agrawal and R. Srikant first proposed the most classical association rule mining algorithm named as Apriori algorithm. But Apriori has two major drawbacks: large number of candidate itemsets generation and large no of database scan. Like most of the association rule algorithms, first it discover minimal frequent itemsets, then it discover the maximal frequent itemsets by using these minimal frequent itemsets, so all approach of this type take large time to find maximal frequent itemsets and needed large number of database scan, also not suitable for the continuous changing database. To overcome these problems, extensive work have done by many researchers, by enhancement and modification on basic algorithms like Apriori algorithm, FP growth algorithm, Eclat algorithm, and MFI algorithm etc. Maximal frequent itemset (MFI) was proposed by Bayard in the year 1998. (MFI) used to find maximal frequent item. After that lots of improved approaches have been proposed to efficiently mining the maximal frequent pattern such as Mafia, GenMax Smart-Miner etc. The present paper provides an overview of various frequent pattern mining algorithms with the expectation that it would serve as a reference material for researchers in this field.</p> <p>Keywords: Apriori Algorithm, Association Rules, Boolean matrix, Data Mining, Frequent Itemset, Maximal Frequent Itemset (MFI), Maximal frequent itemset first (MFIF).</p> <p>References:</p> <ol style="list-style-type: none"> 1. M.S.V.K. Pang-Ning Tan, "Data mining, in Introduction to data mining", Pearson International Edition, 2006, pp.2-7. 2. J. Han, M. Kamber, "Data Mining: Concepts and Techniques 3rd edition", Morgan Kaufmann Publishers, 2013. 3. R. Agrawal and R. Srikant, "Fast algorithms for mining association rules," in Proc. of Int. Conf. Very Large Data Bases (VLDB'94), Santiago, Chile, pp: 487-499, Sept. 1994. 4. 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2.	Authors: Preeti R. Dodwad, L. M. R. J. Lobo	8-12
	Paper Title: A Context-Aware Recommender System Using Ontology Based Approach for Travel Applications	
	<p>Abstract: The purpose of tourism is to travel for relaxation and enjoyment. However, when tourists use internet to search for data about travel spots, events and relevant services they experience a data overload. It is also difficult for them to select what is truly interesting from sheer amount of available information. For a tourist guide system, it is still a tough task to provide proper travel information for tourists who possess different personal interests. Therefore, our aim is to develop a recommender system which considers tourists' personal interests and related context, so that tourists can get relevant travel information with least amount of effort. This recommender system uses an ontology based approach. Ontology consists of a set of concepts relevant to a specific domain and the relationships between them. Such an ontology structure can reason depending on the choices of a user. The user profile keeps the degrees of interest of the user on many concepts by making use of a membership function. Each concept of ontology is a fuzzy set and any user can fit into this fuzzy set to a definite degree. When preliminary assignment of user choices is done, we performed an upward and downward propagation of user's interest degrees which utilizes the taxonomical information of the ontology. The information about the user's choices is propagated throughout the complete set of concepts. This developed system has been successfully applied for a Tourism scenario and is based on user context. This system is built on an Android platform and has generated successful results.</p> <p>Keywords: Context-aware recommendations, user interests, ontology, recommender systems.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Natalya F. Noy, "Semantic Integration: A Survey of Ontology-Based Approaches", ACM 2004. 2. Asunción Gómez-Pérez and Oscar Corcho, "Ontology Languages for the Semantic Web", IEEE, 2002. 3. Cantador, I., Castells, P. "Extracting multilayered Communities of Interest from semantic user profiles: Application to group modeling and hybrid recommendations", Computers in Human Behavior 27(4), 1321-1336 (2011). 4. Tuan-Dung CAO, Thanh-Hien PHAN, Anh-Duc NGUYEN, "An ontology based approach to data representation and information search in Smart Tourist Guide System", IEEE, 2011. 5. Guson Prasamuarso Kuntarto, Dennis Gunawan, "Dwipa Search Engine: When E-Tourism Meets The Semantic Web", ICACSSIS, 2012. 6. K.Palaniammal, Dr. M. Indra Devi, Dr.S.Vijayalakshmi, "An Unfangled Approach to Semantic Search for E-TourismDomain", IEEE, 2012. 7. Jorge Cardoso, "Developing Dynamic packaging Systems using Semantic Web Technologies", Transactions on Information Science and Applications, Vol. 3(4), April 2006. 8. Innar Liiv, Tanel Tammet, Tuukka Ruotsalo, Alar Kuusik, Personalized Context-aware recommendations in SMARTMUSEUM: Combining Semantics with statistics", In: 2009 Third International Conference on Advances in Semantic Processing, Malta 2009. 9. Blanco-Fernández, Y., López-Nores, M., Pazos-Arias, J.J., García-Duque, J. "An improvement for semantics-based recommender systems grounded on attaching temporal information to ontologies and user profiles", Eng. Appl. Art. Intell. 24(8), 1385-1397 (2011). 	
3.	Authors: Florence Upendo Rashidi, Senzota Kivaria Semakuwa	13-16
	Paper Title: Analysis of Rain Effect in Free Space Optical Communication under NRZ Modulation in Two Regions of Tanzania	
	<p>Abstract: Free Space Optical (FSO) is an optical communication technology that uses light propagating in free space to transmit data between two points. In Tanzania now days the demand for higher and unlimited bandwidth for communication channel is highly required. For this case the communication through FSO is the best alternative solution than optical fiber. In this paper we are presenting the effects of different parameters to be used in Dodoma and Dar-es -Salaam when transmitting during the rain period. We designed a model of FSO system using OptiSystem to establish an FSO link by a range of 3 to 5 km and 5 to 15 km in Dodoma and Dar-es-Salaam respectively. In the FSO link we have used a Carbonneau model as rain attenuation model, while transmitting the data on NRZ modulation scheme, and reported analysis of various parameters like Bit Error rate (BER), transmission power and transmission length. The simulation results shows, the received signal power decrease while bit error rate increase when increasing transmission length and optical attenuation but is becoming less than 1 and less than 100 dBm respectively when transmitting within the selected range above. The analysis also found that using FSO for communication is better than optical fiber because it can avoid some challenges such as high cost of digging roads, impractical physical connection between transmitters and receivers and insecure of data.</p> <p>Keywords: Rain Attenuation, Free Space Optical Communications, NRZ, BER.</p> <p>References:</p> <ol style="list-style-type: none"> 1. S. Bloom, E. Korevaar, J. Schuster and H. Willebrand, "Understanding The Performance of Free-Space Optics," J Opt. Netw., vol. 2, no. 6, pp. 178-200, June. 2003. 2. W. Zhang, S. Hranilovic and C. Shi, "Soft-Switching HybridFSO/RF Links Using Short-length Raptor codes: Design and Implementation," IEEE J. Sel. Area Commun., vol. 27, no. 9, pp. 1-11, December. 2009. 3. S.Arnon, "Optical Wireless Communications," In Encyclopedia of Optical Engineering, pp. 1866-1886, New York, USA, 2000. 4. Leitgeb, E., et al., 2005. Reliability of FSO links in next generation optical networks. Paper Presented at the Proceedings of 	

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	<p>Authors: Yongseung Shin, Nam Hyun Cho, Ruchire Eranga Henry Wijesinghe, Jeehyun Kim</p>	
	<p>Paper Title: Optical Switching Mechanism Based SD-OCT for in Vivo Anterior and Retinal Chamber Imaging</p>	
<p>4.</p>	<p>Abstract: In this paper, a technique is developed that can take the depth corresponding to two times depth range of the existing system by including an optical switch in spectral domain optical coherence tomography (SD-OCT) system. The results were obtained by conducting an animal experiment. In order to verify the effectiveness of this technology, optical switch was employed to acquire OCT images sequentially at various depths, to range from the cornea to the retina of guinea pig. Optical switch has a role to match the focus at multiple points of the sample arm for acquiring data of the anterior and the posterior chambers of the eye, and it has the capability of recording the images in real-time.</p> <p>Keywords: Optical switching mechanism based SD-OCT, anterior chamber, posterior chamber.</p> <p>References:</p> <ol style="list-style-type: none"> 1. D. Huang, E. A. Swanson, C. P. Lin, J. S. Schuman, W. G. Stinson, W. Chang, M. R. Hee, T. Flotte, K. Gregory and C. A. Puliafito, "Optical coherence tomography," <i>Science</i>, vol. 254, pp. 1178-1181, Nov 22, 1991. 2. F. Feldchtein, V. Gelikonov, R. Iksanov, G. Gelikonov, R. Kuranov, A. Sergeev, N. Gladkova, M. Ourutina, D. Reitze and J. Warren, "In vivo OCT imaging of hard and soft tissue of the oral cavity," <i>Optics Express</i>, vol. 3, pp. 239-250, 1998. 3. N. H. Cho, U. Jung, S. Kim, W. Jung, J. Oh, H. W. Kang and J. Kim, "High Speed SD-OCT System Using GPU Accelerated Mode for in vivo Human Eye Imaging," <i>Journal of the Optical Society of Korea</i>, vol. 17, pp. 68-72, 2013. 4. A. F. Fercher, W. Drexler, C. K. Hitzenberger and T. Lasser, "Optical coherence tomography-principles and applications," <i>Reports on Progress in Physics</i>, vol. 66, pp. 239, 2003. 5. I. Hariri, A. Sadr, Y. Shimada, J. Tagami and Y. Sumi, "Effects of structural orientation of enamel and dentine on light attenuation and local refractive index: an optical coherence tomography study," <i>J. Dent.</i>, vol. 40, pp. 387-396, 2012. 6. N. H. Cho, U. Jung, S. Kim and J. Kim, "Non-Destructive Inspection Methods for LEDs Using Real-Time Displaying Optical Coherence Tomography," <i>Sensors</i>, vol. 12, pp. 10395-10406, 2012. 7. Z. Yaqoob, J. Wu and C. Yang, "Spectral domain optical coherence tomography: a better OCT imaging strategy," <i>Bio-Techniques</i>, 2005. 8. B. Cense, N. Nassif, T. Chen, M. Pierce, S. Yun, B. Park, B. Bouma, G. Tearney and J. de Boer, "Ultrahigh-resolution high-speed retinal imaging using spectral-domain optical coherence tomography," <i>Optics Express</i>, vol. 12, pp. 2435-2447, 2004. 9. V. Christopoulos, L. Kagemann, G. Wollstein, H. Ishikawa, M. L. Gabriele, M. Wojtkowski, V. Srinivasan, J. G. Fu-jimoto, J. S. Duker and D. K. Dhaliwal, "In vivo corneal high-speed, ultra-high-resolution optical coherence tomography," <i>Arch. Ophthalmol.</i>, vol. 125, pp. 1027-1035, 2007. 10. B. Cense, T. C. Chen, B. H. Park, M. C. Pierce and J. F. de Boer, "Thickness and birefringence of healthy retinal nerve fiber layer tissue measured with polarization-sensitive optical coherence tomography," <i>Invest. Ophthalmol. Vis. Sci.</i>, vol. 45, pp. 2606-2612, Aug, 2004. 11. H. Jeong, S. Lee and B. Kim, "Spectral-domain OCT with dual illumination and interlaced detection for simultaneous anterior segment and retina imaging," <i>Optics Express</i>, vol. 20, pp. 19148-19159, 2012. 12. M. Wojtkowski, V. Srinivasan, T. Ko, J. Fujimoto, A. Kowalczyk and J. Duker, "Ultrahigh-resolution, high-speed, Fourier domain optical coherence tomography and methods for dispersion compensation," <i>Optics Express</i>, vol. 12, pp. 2404-2422, 2004. 	<p>17-19</p>