International Journal of Computer Science Engineering & Technology
APPROVED BY
NATIONAL SCIENCE LIBRARY (NSL)
NATIONAL INSTITUTE OF SCIENCE COMMUNICATION AND INFORMATION RESOURCES (NISCAIR)
COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH (CSIR)- NEW DELHI INDIA .
ISSN :2455-9091

SURVEY ON WEB SEMANTIC ANALYSIS FOR DATA MINING

[1] P. Nithya, [2] Dr. V. SATHYA
[1, 2] Assistant Professor,
[1, 2] Department of Computer Science,
[1] Jairam Arts & Science College, [2] MGR College, Hosur,
[1] Salem – 636 008. [2] Tamil Nadu, India.

ABSTRACT- The growth of semantic web has offered ascend to proliferation of data sources wherein the errand of perceiving true substances and recognizing various references of a similar genuine element turns into a fundamental undertaking to encourage sharing and integration of data. Finding an assistance over the web that meets the ideal functionalities is as yet quite possibly the most difficult undertakings nearby Service Oriented Computing. Absence of semantic data in the web services profiles represents a limitation in the mechanized revelation of services, and the difficulties that would assist with improving their integration with the Semantic Web are discussed.

Keywords: [Semantic technology; Semantic Web; Data Mining Semantic Web Mining.]

1. INTRODUCTION

The web is presently a significant communication platform utilized by all areas of society, associating people, organizations, and information through their objects-of-interest, framing object-centered networks. In past numerous arrangements dependent on machine learning, ontology matching, graph theory, data mining and IR based methodologies have been proposed for Semantic web administration discovery. Connected data is a technique that permits distributing heterogeneous data that are interlinked and sharable and can be handily gotten to through semantic questioning. Reusing these huge heterogeneous data sources presents numerous difficulties like missing links, deficient metadata , distinction in schema granularity, noise, inconsistent values etc. Redundancy is another major issue as same assets/example show up in various data sources anyway with various resource identifiers.

Semantic Web

The Semantic Web is changing the way how scientific data are gathered, stored, and analysed. In this area, a short depiction characterizing the Semantic Web is introduced followed by the explanations for the creating of Semantic Web. Next a couple of specific portrayal techniques suggested by W3C are introduced and a number of effective models from the business space that help and utilize the semantic data are given as well. Machine-processable data can direct the search engine toward the pertinent pages and would thus be able to improve both precision and recall.

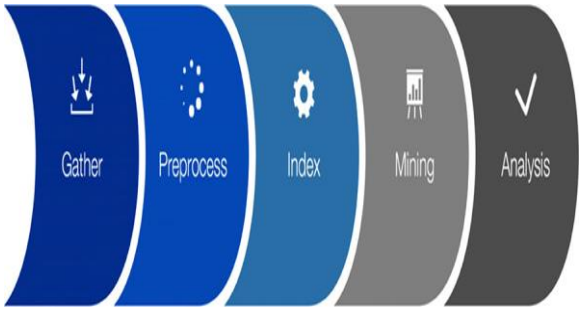

Figure 1. Web Semantic Analysis

Semantic Web Mining

Web mining is the procedure of finding and extricating valuable learning from the substance, use, and structure of at least one Web destinations. Semantic Web mining incorporates the blend of region information into the Web mining process. Space information can be joined into the Web mining process according to various perspectives. This join using express space ontologies or comprehended region semantics isolated from the substance or the structure of reports or Website Semantic Web Mining is an integration of two significant scientific regions: Semantic Web and Data Mining. Semantic Web is used to give a significance to data, makingperplexing and heterogeneous data structure, while Data Mining are used to separate interesting examples from, homogenous and less unpredictable, data. Because of the fast expanding in the measure of put away semantic data and knowledge in different territories, as the case in biomedical and clinical situations, this could be changed to an ideal objective to be mined prompting the introduction of the expression "Semantic Web Mining". This paper gives an overall outline of the Semantic Web, and Data Mining followed by an introduction.

2. LITERATURE SURVEY

1. M. Driss, A. Aljehani, W. Boulila, H. Ghandorh and M. Al-Sarem (2020) et.al proposed Servicing Your Requirements: An FCA and RCA-Driven Approach for Semantic Web Services Composition. The widespread use of the Web and the development of network technologies is the next step in the evolutionary implementation chain of distributed applications that prompted the rise of the Web service worldview. Web services have arisen as another technology that, through interoperability openings it offers, positions now as a point of convergence of different technological entertainers from various fields such as e-commerce, e-learning, e-government, or other fields. In this paper, we presented a novel requirement-driven approach that ensures the discovery, the selection, and the execution of optimal semantic Web services satisfying client's utilitarian and non-useful necessities indicated as far as QoS, QoE, and QoBiz properties. This proposed approach tested utilizing an all-encompassing rendition of the OWLS-TC dataset, which incorporates in excess of 10830 semantic Web services portrayals.

2. S. Arora and N. Baliyan (2019) et.al proposed Extraction and Analysis of Information in News Domain Using Semantic Web. The present news search engines are created in such a way that they give the news to the users based on their rankings which is based on the relevance of the news. The Semantic Web is an augmentation of the World Wide Web through standards by the World Wide Web Consortium(W3C).This paper focuses on the need of gathering news from different result sets of the query and integrating the relevant result obtained at one single place which reduces the human efforts and also the time that is spent in finding the relevant news. Later the words are grouped together so as to find the frequency of their occurrence and their relevance too. Further they are classified and drawn into RDF graphs. Finally, the data can be retrieved using various queries over the ontologies created.

3. B. Vijaya and P. Gharpure (2019) et.al proposed Candidate Generation for Instance Matching on Semantic Web.The world is experiencing an exponential growth in data creation from various sources such as Knowledge graphs, social networks, ubiquitous computing devices such as smart phones, wearable devices, sensors etc. For large-scale multinational organizations storing, analysing, consuming and deriving knowledge from the data is primary concern. In this paper, we studied the working of inverted index structure that can support approximate search queries. Comparison of four algorithms that uses trigram-based index was carried out . It was seen that candidate generation and reduction using probabilistic approach yielded good result. One of the possible future direction is to extend these methods on data sets described using larger ontologies with complex structure. The candidate reduction approaches using threshold and probabilistic model that uses linear interpolation improves

the efficiency and effectiveness. Since heterogeneity is an inherent feature of data on the semantic web, hybrid approaches that combine different algorithms will be of great interest.

4. X. Chen, C. Tian and T. Wu (2018) et.al proposed The Semantic Web Approach for the Collaborative Analysis and Visualization of Ethnic Education and Vocation.economic growth period compared with developed eastern regions of China. Special policy support for ethic areas and population is long being adopted by the central government to foster educational, vocational and economic growth for minority nationalities. Recently released initiatives such as "the Belt and Road Initiative" (B&R), "Massive Entrepreneurship and Innovation" (E&I), etc., indeed cover different facets of the ethnic development and help with its growth. This paper brings together the meaningful expressiveness of Semantic Web, powerful ranking ability of PageRank algorithm and rich features offered by Baidu Map to conduct the collaborative analysis and visualization of ethnic educational and vocational statistics. According to the demonstration and experiment results based on Southwest Minzu University published data, hidden relationships can be intuitively mined from raw datasets in a user-friendly manner powered by visual added SPARQL queries and PageRank ranking. In our future work, data of various aspects of ethnic areas and population, such as public sentiment, healthcare, etc., are going to be collected to reveal a more comprehensive ethnic development status.

5. J. Fabra, M. J. Ibáñez, P. álvarez and J. Ezpeleta (2018) et.al proposed Behavioral Analysis of Scientific Workflows with Semantic Information.In the last years, scientific computing workflows have gained a lot of interest in different areas related to science and human life. Scientific workflows are a special type of workflows which often underlies many large-scale complex e-science applications such as climate modelling, structuralbiology and chemistry, medical surgery or disaster recovery simulation, among others. Petri nets and model checking techniques are widely used in different application domains. This work has focused on their application to the area of scientific workflow analysis. However, the proposed method has some important limitations. For a given task specification there are different types of postconditions that could be defined. Many of them could be evaluated without executing the task invocation, and there are sets of postconditions that could only be evaluated by means of the task execution. Finally, the COMBAS framework allows the use of different RDF storages, so we are carrying out a study to analyse and improve the efficiency of the overall system as each RDF solution exposes different costs depending on the inference engine.

6. O. Ochoa, M. Rodney and N. Del Rio (2020) et.al proposed Accessing Provenance Records in Semantic Web Services.Semantic Web services are web services integrated with semantics by using standardized, machine-understandable description languages to automate the discovery, reuse and composition of resources on the Web. These Semantic Web services include descriptions about the overall intent of the service by describing the operations that the service is meant to provide, the inputs and outputs of the service, and protocols over which the service communicates its information. Accessing provenance records on the Semantic Web is an important aspect of defining Semantic Web services that are available to the public. Future work for this project is to develop a comprehensive application for automated semantic web service discovery and composition that accounts for provenance records. The approach would utilize provenance to discover semantic web services linked to the one accessed by using a crawling approach based on the WSDL-S files and provenance records of web services.

7. S. Sharma, J. S. Lather and M. Dave (2014) et.al proposed Semantic discovery of web services using statistical methods and measures of semantic relatedness.Despite being relevant to a specific user request, majority of the web services over the internet are not considered during service discovery because they do not have explicitly associated semantic descriptions. The existing SOA enables only syntax-based

discovery which gives a high percentage of irrelevant results. In past many solutions based on machine learning, ontology matching, graph theory, data mining and IR based approaches have been proposed for Semantic web service discovery. In this paper, we propose a Web service discovery approach free of the depiction model that attempts to make do with the heterogeneity found in semantic service description frameworks. This approach discovers the most relevant services by combining the approaches of text mining, information retrieval and measures of semantic relatedness. As per best of our knowledge Omiotis has not been used by any other author in the area of web service discovery.

8. V. Rana and G. Singh (2014) et.al proposed Analysis of web mining technology and their impact on semantic web.The web is an interactive medium to retrieve and manipulate information on the internet. With the rapid growth of information sources existing on the web, it has become necessary to exploit some automated techniques to find the valuable information on web and summarized their usage patterns. The web mining is a highly research topic of several web communities such as Information Retrieval, Machine Learning, NLP and AI. In this work we have tried to throw light on concepts of web mining system with brief survey of its mining systems and their problem domain. Web mining is vital future of World Wide Web, where it provides lot of feature for making knowledge-oriented web pages according to user browsing behaviour. The objective of this work is exploiting the web mining technique in wisdom web that is our future work.

9. X. Wang and H. Yang (2015) et.al proposed Applying semantic web techniques to poem analysis.With the rapid development of computer industry, more and more people pay higher attention to combining the computer science with human arts. Since human mind creates beautiful literature, it is a great challenge for computer machine to understand and analyse the achievements. As one of the most significant elements in literature, poem is a research object of exclusive value and culture meaning. The research presented in this paper aims to analyse the creativity of poetry based on the elements of syntax, style, metaphor as well as genre by using Semantic Web Techniques. Since the great potential of the pervasive utilization of computing in every field, more and more fascinating innovations done by computing are demanded to facilitate the evermore sophisticated society. The research is aiming to use the great power of computing to analyse poems. However, there are far more work could be conducted. By analysing poems, insights about the decisive elements and impacting factors of building creative poems will be excavated. The former is about constructing poems based on traditional formats with new content, such as using creative words. The latter is about composing poems with totally new formats and content, which requires more creativity for computing.

10. N. E. A. Amrani, O. E. K. Abra, M. Youssfi and O. Bouattane (2019) et.al proposed A new interpretation technique of traffic signs, based on Deep Learning and Semantic Web.Today, we are faced with the expansion of the concept of smart city where all objects are connected and communicate with each other. One of the major concerns in smart cities is the safety of citizens. In this context, we want to contribute through this work to this challenge in the field of road traffic. Traffic signs identification by autonomous vehicles in connected environments is crucial for road safety. Current techniques for traffic signs identification are based on analysis of captured image of traffic sign. In this paper, we have proposed a new approach that combines between two methods of recognition especially Deep Learning and Semantic Web to ensure a reliable interpretation of traffic signs by autonomous vehicles. This method improves semantic interoperability between connected objects in general and in particular in the field of road traffic. As perspectives, we are testing validating our model using real world data sets, especially Casablanca city.

11. S. A. Rios, F. Aguilera, F. Bustos, T. Omitola and N. Shadbolt (2011) et.al proposed Leveraging Social Network

Analysis with Topic Models and the Semantic Web.The web is now a major communication platform used by all sections of society, connecting people, organizations, and knowledge through their objects-of-interest, forming "object-centred networks. In this paper we have extended the SIOC (Semantically Interlinked Online Communities) ontology. A main contribution of this work is our proposed model based on three main characteristics applicable for all communities, and these are: People, Policies, and Purposes. Moreover, the extended model can store information regarding the inner semantics of the contents of the interactions of the members of a community. This way, we can leverage the techniques that can be applied to perform Social Network Analysis (SNA) and also Data Mining (DM) on a social network. We performed a real application to a community called plexilandia that started on 2002 and now has more than 2500 members.

12. M. M. Martínez-González and M. Alvite-Díez (2019) et.al proposed Thesauri and Semantic Web: Discussion of the Evolution of Thesauri toward Their Integration with the Semantic Web. In the library and information sciences, much exertion is given to creating instruments for getting sorted out enormous assortments of objects like books or historical center antiquities. These devices are referred to by and large as "Knowledge Organization Systems" (KOS) or as "controlled vocabularies". Various groups of knowledge organization systems, are broadly perceived and applied in both present day and conventional information systems.We have compared the constructs and integrity rules of ISO 25964, the current ISO standard for thesauri, and SKOS, the W3C standard for representing KOS with RDF. From the results of the observations made in this study, we have the impression that thesauri do not seem to be in decline, but rather in full process of integration into the Semantic Web. Thesauri and Linked Data have found good mutual accommodation. Thesauri take advantage of Linked Data technologies to show the alignment between them, and Linked Data has found in thesauri a great use case to demonstrate its potential. The development of thesaurus management tools and therefore make thesauri more capable of being offered as open data in the web of data.

13. A. EkramiFard and M. Kahani (2015) et.al proposed Providing a source code security analysis model using semantic web techniques.Current computer systems are connected to each other by global networks. It can provide more threats for software systems. Software engineering helps to develop a qualified computer application in some steps: Analysis, Design, Implementation, Testing and Maintenance. Security as a measure of software quality should be considered at all steps of software development life cycle. Security is one of the most important requirements in the software production process. Static analysis at the implementation step, by examining the structure of the code, identifies and reports security holes. This paper proposes a semantic model for source code security analysis. Java source code is converted to an intermediate model, then semantic SPARQL queries audit the code. The proposed parser traces the code and stores in form of RDF triple. This intermediate representation of the code can be reused in other processes of evaluation or pattern identification. We can identify more elements in code and complete relationships between them by developing a better parser. Also inference step can be improved by adding new error patterns as SPARQL queries.

14. K. Mahmood and H. Takahashi (2015) et.al proposed Cloud based sports analytics using semantic web tools and technologies.To characterize its different dimensions Big Data, is defined by attributes like Variety, Volume, Velocity, Value and Veracity. The "variety" aspect of Big Data is of immense significance since it caters to the numerous formats of information that can be considered - Structured, Unstructured and Semi-structured. Semantic Sensor Network (SSN) [6], recently emerged to enhance the normal "document web" with more data and to also bring standards for this new and little explored area. One of the broader impacts of our work is to bring out more data and a study case for the merit of SSN. Our initial

evaluation aims to detect all the main events in videos of soccer game. To further improve the output of various speech APIs, we use training data set and convert sounds/words close to keywords of soccer game. Wordnet is used to find synonym, hyponym while DBpedia is used to find the category of each word. We used 100 different videos of various quality.

15. R. Sethuraman, G. Sneha and D. S. Bhargavi (2017) et.al proposed A semantic web services for medical analysis in health care domain.The utilization pertaining to the web linked with semantic as well as web administrations has offered ascend to web oriented to the web administrations. The given novel innovation permits programming specialists to find, choose, describe, form, conjure, and carry out naturally a Web administration devoid of the intercession of people, it joins the innovation of Web administration (WSDL, SOAP, UDDI) with Semantic Web advances (OWL, RDF, RDFS). Online situations assume an essential part in therapeutic wellbeing arrangement. The information put away here is spoken to in OWL, inquiry with SPARQL plus Jena API bundle for the communication amongst Java plus OWL-RDF records. On the basis of the necessities of people who undergo treatment, there is plausibility that vast size of related specialists may be accessible. In this way, at this time, through utilizing the machine knowledge calculation the researchers try to locate the most excellent specialist.

3. PROPOSED METHODS, MERITS AND DEMERITS

Authors Name & Year	Proposed Methods	Merits	Demerits
M. Driss, A. Aljehani, W. Boulila, H. Ghandorh and M. Al-Sarem (2020)	Servicing Your Requirements: An FCA and RCA-Driven Approach for Semantic Web Services Composition	1. The optimal composition satisfying the user's and organization's requirements with high accuracy and efficiency. 2. The validation of the user's satisfaction is ensured by monitoring the obtained service-based applications	Perform more experiments with large and complex datasets of microservices did not collected from different cloud.
S. Arora and N. Baliyan (2019)	Extraction and Analysis of Information in News Domain Using Semantic Web	1. The semantic analysis of the information we extract so that only positive and true news will be delivered to the user, and the fake news is discarded and not delivered to the user. 2. The semantic web techniques are better than those which were used earlier , as the ontologies leverage the technique used	1. No more Improvement in scalability and smooth deployment. 2. Semantically if the content is enriched it did not increase the ability of the audience to discover, navigate and share the content and the information.
B. Vijaya and P. Gharpure (2019)	Candidate Generation for Instance Matching on Semantic Web	1. The candidate reduction approaches using threshold and probabilistic model that uses linear interpolation improves the efficiency and effectiveness.	Redundancy is another serious issue as same resources or instances appear in multiple data sources however with different resource

		2. Generation and reduction using probabilistic approach yielded good result.	identifiers.
X. Chen, C. Tian and T. Wu (2018)	The Semantic Web Approach for the Collaborative Analysis and Visualization of Ethnic Education and Vocation	Semantic Web approach with Baidu Map offers a more comprehensive analysis and visualization platform.	Semantic Web approach with Baidu Map offers a more comprehensive analysis and visualization platform.
J. Fabra, M. J. Ibáñez, P. álvarez and J. Ezpeleta (2018)	Behavioral Analysis of Scientific Workflows with Semantic Information.	1. Semantic aspects to workflow models allow a higher flexibility for analysis and improves resource usage when dealing with complex problems. 2. Problems and challenges that were too heavy or time consuming solved in a more efficient manner	2. A discovered and provided operation (service) fits our needs for a specific task for some data
O. Ochoa, M. Rodney and N. Del Rio (2020)	Accessing Provenance Records in Semantic Web Services	Accessing provenance records on the Semantic Web is an important aspect of defining Semantic Web services that are available to the public.	Develop a comprehensive application for automated semantic web service discovery and composition that accounts for provenance records.
S. Sharma, J. S. Lather and M. Dave (2014)	Semantic discovery of web services using statistical methods and measures of semantic relatedness	Semantic service discovers the most relevant services by combining the approaches of text mining, information retrieval and measures of semantic relatedness.	The composition of web services in order to not satisfying the high-level requirement.
V. Rana and G. Singh (2014)	Analysis of web mining technology and their impact on semantic web	1. Web mining is vital future of World Wide Web, where it provides lot of feature for making knowledge-oriented web pages according to user browsing behaviour. 2. Since it is a popular method, will get good community support. And as it is already tried on diverse datasets, it is reliable.	1. The objective of this work is exploiting the web mining technique in wisdom web. 2. Representation is dense, so hard to index based on individual dimensions

X.Wang and H. Yang (2015)	Applying semantic web techniques to poem analysis	Since the great potential of the pervasive utilization of computing in every field, more and more fascinating innovations done by computing are demanded to facilitate the evermore sophisticated society.	Since it is a distributional model, so not an efficientconsideration is using computing to generate poems, both traditional and inventive.
N. E. A. Amrani, O. E. K. Abra, M. Youssfi and O. Bouattane (2019)	A new interpretation technique of traffic signs, based on Deep Learning and Semantic Web	1. This method improves semantic interoperability between connected objects in general and in particular in the field of road traffic. 2. Easy to implement, understand and use. There are many practical and scalable implementations available.	Internet today can connect heterogeneous objects such as vehicles, road signs, roads, etc., it remains difficult to ensure reliable communication between these different connected objects.
S. A. Rios, F. Aguilera, F. Bustos, T. Omitola and N. Shadbolt (2011)	Leveraging Social Network Analysis with Topic Models and the Semantic Web.	1. Three main characteristics applicable for all communities and these are: People, Policies, and Purposes. 2. The extended model can store information regarding the inner semantics of the contents of the interactions of the members of a community.	Since it is a distributional model, so not an efficient representation.
M. M. Martínez-González and M. Alvite-Díez (2019)	Thesauri and Semantic Web: Discussion of the Evolution of Thesauri toward Their Integration with the Semantic Web	Thesauri and Linked Data have found good mutual accommodation. Thesauri take advantage of Linked Data technologies to show the alignment between them, and Linked Data has found in thesauri a great use case to demonstrate its potential.	The work with integrity rules did not contains, how to express them and how to share them, and for this, the path, once more, certainly passes through the Semantic Web.
A. EkramiFard and M. Kahani (2015)	Providing a source code security analysis model using semantic web techniques.	The main advantage of this method in comparing the independence of code analysis and error inference sections	The parser uses syntax analysis that unlike lexical analysis method is more difficult.

K. Mahmood and H. Takahashi (2015)	Cloud based sports analytics using semantic web tools and technologies	These wearable devices are capable of health, mental, physical and activity status monitoring, for instance, both Android and Apple watches have sensors that can monitor the biometrics of a person and can also connect to the internet at the same time	The work relevant to collection of data from wearable sensors is complete and their integration with event detection and prediction is in progress.
R. Sethuraman, G. Sneha and D. S. Bhargavi (2017)	A semantic web services for medical analysis in health care domain	Semantic network is really an augmentation of the present network at which it speaks to data all the more genuinely for people and PCs similar.	Unmitigated cross-entropy because a misfortune capacity and dropout method like a habituated person accomplishes arrangement issues.

CONCLUSION

Semantic Web Mining is another and fast-developing research zone consolidating Web Mining and Semantic Web. In this paper, we have contemplated the blend of the two fast-developing research regions Semantic Web. In this survey paper, we have given an investigation on the use of Semantic Web information, most recognizably Linked Open Data, for data mining and data discovery. Semantic Web Mining is another and fast-developing research zone joining Web Mining and Semantic Web. This investigation examinations the converging of patterns from the two zones remembering Using semantic structures for the Web to Enrich the results of Web Mining and to fabricate the Semantic Web By utilizing the Web Mining techniques.We additionally have given justification that the two regions Web Mining and Semantic Web need each other to accomplish their objectives.

REFERENCES

[1]. M. Driss, A. Aljehani, W. Boulila, H. Ghandorh and M. Al-Sarem, "Servicing Your Requirements: An FCA and RCA-Driven Approach for Semantic Web Services Composition," in IEEE Access, vol. 8, pp. 59326-59339, 2020, doi: 10.1109/ACCESS.2020.2982592.

[2]. S. Arora and N. Baliyan, "Extraction and Analysis of Information in News Domain Using Semantic Web," 2019 4th International Conference on Internet of Things: Smart Innovation and Usages (IoT-SIU), Ghaziabad, India, 2019, pp. 1-6, doi: 10.1109/IoT-SIU.2019.8777502.

[3]. B. Vijaya and P. Gharpure, "Candidate Generation for Instance Matching on Semantic Web," 2019 International Conference on Computational Intelligence in Data Science (ICCIDS), Chennai, India, 2019, pp. 1-5, doi: 10.1109/ICCIDS.2019.8862131.

[4]. X. Chen, C. Tian and T. Wu, "The Semantic Web Approach for the Collaborative Analysis and Visualization of Ethnic Education and Vocation," 2018 IEEE 22nd International Conference on Computer Supported Cooperative Work in Design ((CSCWD)), Nanjing, China, 2018, pp. 414-419, doi: 10.1109/CSCWD.2018.8465182.

[5]. J. Fabra, M. J. Ibáñez, P. álvarez and J. Ezpeleta, "Behavioral Analysis of Scientific Workflows with Semantic Information," in IEEE Access, vol. 6, pp. 66030-66046, 2018, doi: 10.1109/ACCESS.2018.2878043.

[6]. O. Ochoa, M. Rodney and N. Del Rio, "Accessing Provenance Records in Semantic Web Services," 2020 IEEE 14th International Conference on Semantic Computing (ICSC), San Diego, CA, USA, 2020, pp. 141-144, doi: 10.1109/ICSC.2020.00027.

[7]. S. Sharma, J. S. Lather and M. Dave, "Semantic discovery of web services using

statistical methods and measures of semantic relatedness," 2014 IEEE International Advance Computing Conference (IACC), Gurgaon, India, 2014, pp. 438-443, doi: 10.1109/IAdCC.2014.6779364.
[8]. V. Rana and G. Singh, "Analysis of web mining technology and their impact on semantic web," 2014 Innovative Applications of Computational Intelligence on Power, Energy and Controls with their impact on Humanity (CIPECH), Ghaziabad, India, 2014, pp. 5-11, doi: 10.1109/CIPECH.2014.7019035.
[9]. X. Wang and H. Yang, "Applying semantic web techniques to poem analysis," 2015 21st International Conference on Automation and Computing (ICAC), Glasgow, UK, 2015, pp. 1-6, doi: 10.1109/IConAC.2015.7313964.
[10]. N. E. A. Amrani, O. E. K. Abra, M. Youssfi and O. Bouattane, "A new interpretation technique of traffic signs, based on Deep Learning and Semantic Web," 2019 Third International Conference on Intelligent Computing in Data Sciences (ICDS), Marrakech, Morocco, 2019, pp. 1-6, doi: 10.1109/ICDS47004.2019.8942319.
[11]. S. A. Rios, F. Aguilera, F. Bustos, T. Omitola and N. Shadbolt, "Leveraging Social Network Analysis with Topic Models and the Semantic Web," 2011 IEEE/WIC/ACM International Conferences on Web Intelligence and Intelligent Agent Technology, Lyon, France, 2011, pp. 339-342, doi: 10.1109/WI-IAT.2011.127.
[12]. M. M. Martínez-González and M. Alvite-Díez, "Thesauri and Semantic Web: Discussion of the Evolution of Thesauri Toward Their Integration with the Semantic Web," in IEEE Access, vol. 7, pp. 153151-153170, 2019, doi: 10.1109/ACCESS.2019.2948028.
[13]. EkramiFard and M. Kahani, "Providing a source code security analysis model using semantic web techniques," 2015 International Congress on Technology, Communication and Knowledge (ICTCK), Mashhad, Iran, 2015, pp. 33-37, doi: 10.1109/ICTCK.2015.7582643.
[14].K. Mahmood and H. Takahashi, "Cloud based sports analytics using semantic web tools and technologies," 2015 IEEE 4th Global Conference on Consumer Electronics (GCCE), Osaka, Japan, 2015, pp. 431-433, doi: 10.1109/GCCE.2015.7398708.
[15]. R. Sethuraman, G. Sneha and D. S. Bhargavi, "A semantic web services for medical analysis in health care domain," 2017 International Conference on Information Communication and Embedded Systems (ICICES), Chennai, India, 2017, pp. 1-5, doi: 10.1109/ICICES.2017.8070718.