



# A Most Efficient Health Care (HC) Based Algorithm for Prevention of Brain Disease Facets in Data Mining Applications

Naga MalleswaraRaoPurimetla, Jaya Rama Krishnaiah V. Vemula

**ABSTRACT**---Nowadays the use of data mining has been increasing rapidly in many areas like research applications, medical applications, healthcare applications, etc. The data mining applications really providing great applications for all areas due to its huge amount of data related to different types of data which was related to different types of areas in the storage servers, one of the problem with this mining applications is how to get the relevant data from the huge amount of data, many research and development applications are providing different types of solutions to retrieve the data from the mining. Once data was retrieved from the servers the users easily can solve their problems from their homes, for example, online doctor's information systems. In the olden days when the information technology is not vastly distributed the patient doesn't know the doctor's availability the success percentage of doctor treatment, how many doctors are available in their city, etc. This manuscript was proposing the algorithm for the healthcare system which is called query facets algorithm, which can fetches data from the server based on the query.

**KEY WORDS:** Attributes, Objects, Choice support, Traumatic cerebrum wounds, Apache hive Symbolic information investigation, Informatics, Data mining.

## I. INTRODUCTION

### 1.1 Objects & Attributes:

The importance of the Detaining has been deploying in human life, due to its huge amount of database related to medical, research and development, agriculture, banking, e-commercial, engineering, etc. Many people use this Data mining for Knowledge gathering. In the case of Data mining the data objects are always represented as Data objects again the data objects are collections of data attributes. For instance, a business information article may speak to the client, deals or buys. At the point when an information article is recorded in a database, they are called information tuples. Informational indexes are comprised of information objects. A data article addresses a substance in a business database, the things may be customers, store things, and arrangements; in a restorative database, the articles may be

patients; in a school database, the things may be understudies, educators, and courses. Data

articles are ordinarily portrayed by qualities. Data articles can in like manner be insinuated as tests, models, events, data centers, or fights. If the data things are taken care of in a database, they are data tuples. Quality is an information field, speaking to a trademark or highlight of an information object. The things characteristic, measurement, highlight, and variable are regularly utilized reciprocally in writing. The term measurement is usually utilized in information warehousing. AI writing will, in general, utilize the term include, while analysts lean toward the term variable. Data mining and database experts generally utilize the term property. We utilize the term property here too. Qualities portraying a client article can incorporate, for instance, client ID, name, and address.

### 1.2 Misdiagnosis Minimization Approach

The examination of therapeutic contaminations along with wounds normally makes tremendous proportions of facts [1]. Hughes [1] communicated to facilitate "checks are that the overall size of Big Data in Health care stays at around 150 Exabytes in 2011, growing at a rate someplace in the scope of 1.2 and 2.4 Exabytes consistently. Big Data isn't just about the volume, speed, and grouping of the data away, it is moreover about the potential estimation of those data that starting at now exist yet are ineffectually arranged and taken care of in commonly unique setups transversely over undertakings that haven't ordinarily shared data direct."

Up to this time, this information was entered by hand over into a data server for separating moreover evaluation. The U.S. outfitted apply revelations created utilizing the use of lenient individuals Informatics allotment Software data to help the joint endeavors of advancement practices for desires crucial they can help save[2]. The social security industry can profit greatly from information mining applications. The target of this article is to investigate gigantic Data mining applications by first watching Data mining strategy and structures; by then, sorting out potential

Data mining applications in human associations; next giving an arrangement of a remedial associations Data mining; considering, including the necessities of Data mining and offering some future directions[3].

### 1.3 Objects And Methods

[4]inside the audit revision, Assessment tests included 128 back to back effected persons Joined the neurosurgical emergency division to the TBI by the National Taiwan University Hospital Yun-Lin

Revised Manuscript Received on December 30, 2019.

\* Correspondence Author

Naga MalleswaraRaoPurimetla, Research Scholar, Department of CSE, AcharyaNagarjuna University, Guntur, Andhra Pradesh, India.

Dr. Jaya Rama Krishnaiah V. Vemula, Assoc.Professor, A.S.N. Women's Engineering College, Tenali, Andhra Pradesh, India.

© The Authors. Published by Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP). This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

Branch starting from 2009 up to end of the year 2012.

#### 1.4 Outcome Measure

The result was considered by neurosurgeons in the outpatient office utilizing the half-year Glasgow Outcome Scale (GOS) score. The GOS is a five-position scale isolating ill peoples are 5 portrayals: 1.lifeless; 2.vegetative level; 3.outrageous inadequacy; 4.judicious failure; last but not least 5.extraordinary healing. Within the assessment, we made 2-sorts of want model to anticipate half-year supportive results and mortality. For the longing for an utilitarian result, the result variable was coded into a twofold game-plan of a foreboding result or incredible result [5-6]. intended for the human figure, the result was erratically classified into in any condition

#### 1.5 Predictors

while we were trying to make with consider astute models basically dependent on simple to-outline and routinely gathered information, the pointers included estimation, medical, and lab analysis information amassed from Emergency Room (ER) and emergency division request, which incorporated GCS, era, sexual bearing, blood Sugar level, white platelet, diabetes mellitus history, hypertension history, understudy extent, with end. The markers had been spoken to be related by foreboding is humanity for illness persons with TBI, [7] and was implied addicted to evident otherwise ordinal balance so as to provide the information reasonable used for dealing with variants. The dichotomizing enduring elements (period, blood sugar stage, along with pallid outstanding compartment), the evaluation got a handle on result depending techniques that underscore each saw a propelling power for the one which best limits the hazard packs concerning the assessment results as appeared by chi-squared analysis. The essential GCS gain is assessed ahead of the ER appearance. an additional hoodwink inspirations driving GCS estimations were combined for assessment. The advancements of GCS scores as of ER to the seventh date from ER to the fourteenth day, and from the seventh to fourteenth day were settled and included for the appraisal. During a pilot framework, between peruser, suffering quality [8] was created to ensure that the GCS scores were reviewed consistently between therapeutic staff

## II. DATA MINING

The Era of information Base with Data Mining improvement along with the history addressed at Table.1. The information facet system ongoing in an hour of 1960s previously. In this, Data mining is basically on record managing. The going with arranging its Database the chairmen's Systems to be begun the hour of the 1970s on the calendar to 1980s[9].

**Table 1: The era of Database Systems and Data Mining [10].**

Evolutionary trend	Business inquiry	Enabling Technologies	invention Providers	uniqueness
Data gathering (in 1960s)	How much total revenue I have Earn from last 5 years	Computers, tapes, Hard disks.	IBM,CDC	Retrospective, static data delivery.
Data AccessIn(1980s )	Total Unit sales in Last march	Relational Databases.	Oracle Sybase, Informix, IBM.	Dynamic data delivery.
Data Warehousing & Decision Support(the 1990s)	What were unit sales in England last March? Drill down to Boston	Online processing. analytic	Pilot Comshare, Arbor, Cognos.	Dynamic data delivery at multiple levels.
Data Mining	What's likely to happen to Boston unit sales next month? Why?	Advanced Algorithms, multiprocessors, computers	IBM, SGI.	Secured data delivery

Data mining can be seen as a general starting late made framework and advancement, turning into a power to be dealt with just in 1994[11] It intends to perceive considerable, novel, conceivably accommodating, and sensible associations and models in data11 by experiencing bounteous instructive files to find models they are much honest or multifarious for individuals to distinguish. [12] Cross-Industry Standard Process for Data Mining (CRISP-DM). Business perception is essential since it perceives the business targets and, thusly, the accomplishment classifies by mining of data adventures. Extra, seeing that the articulation "data mining" derives, information is huge portion rejection data suggests no mining. In this manner, CRISP-DM consolidates data perception and data course of action, in that capacity, analyzing and information change as essential forerunners for illustrating. The most generally perceived and huge applications in data mining apparently incorporate farsighted showing [13]. The request suggests the figure of an objective erratic that is out and out in life, for instance, anticipating restorative administration distortion versus known blackmail. Assessment, on the additional level, suggests the desire for a target inconsistent that is metric in nature, for instance, predicting the length of remains or the proportion of advantage use.

#### 2.1 Techniques of Data Mining

There are numerous Data mining methods and calculations are accessible to find important examples and rules [14-15]. There are a wide range of strategies are as pursue,

1. Association.
2. Prediction.
3. Clustering.
4. Outlier Analysis.

Data mining assignments are for the most part grouped into three general classifications they are, Predictive model Descriptive model and optimization model which was given in figure 1

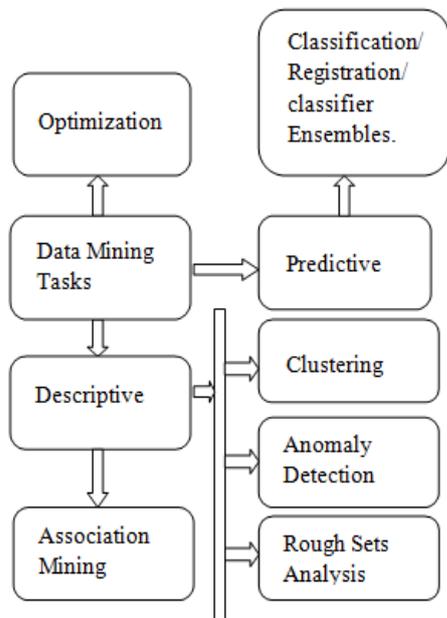


Fig. 1: Tasks and models of data mining.

III. DATA MINING APPLICATION AREAS

Tensors are extremely incredible and adaptable instruments, as exhibited by the not insignificant rundown of their functions in Data mining. During the area, we are spread a broad range of such applications, public and joint effort organize examination, network mining and look for web, learning bases, data recovery, subject displaying, mind information investigation, suggestion frameworks, urban figuring, medicinal services, and therapeutic applications, PC systems, discourse and picture preparing, and PC vision. For every application, we center around what the issue detailing is, the way a tensor is displayed, and which deterioration is utilized, and talk about the outcomes.

3.1 Data Mining Applications in Healthcare Sector

The therapeutic administration's business nowadays delivers a great deal of multifaceted data regarding patients, crisis center possessions sickness end, electronic tolerant data, remedial strategy, et cetera. Greater proportions of data are an unmistakable bit of leeway to be arranged and separated for learning mining so as to engages maintain for cost-hold assets with fundamental administration. Data mining purposes in social protection are able to gather as the appraisal into general classes and which was recorded underneath,

1. Cure efficiency.
2. Healthcare organization.
3. Consumer association organization.
4. Deception and mistreatment
5. Medicinal apparatus commerce
6. Pharmaceutical trade
7. Infirmary organization

The going with outline figure 2, in perspective on the Goggle audit With a colossal surge of multimodality information, the activity of facts examination within prosperity informatics has grown rapidly into the latest era. This has also actuated growing premiums into the period of indicative, information-running models subject to AI in

prosperity informatics. Significant knowledge, a technique with its foundation in counterfeit neural frameworks, is ascending starting late as a helpful resource for AI, promising to reshape the inevitable destiny of man-made mental aptitude

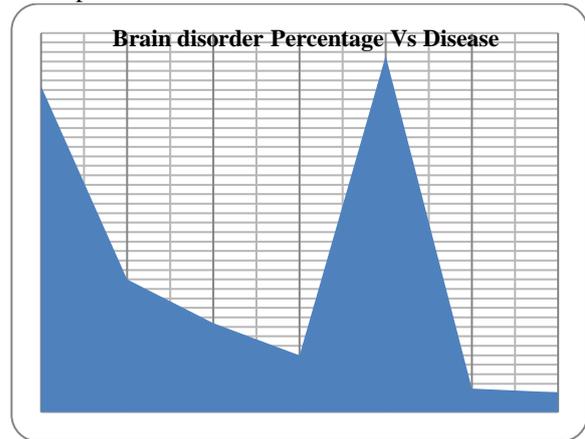


Fig. 2: Survey on people's awareness of data searching.

The Standardized dementia predominance examination by the 10/66 Dementia Research Group10/66 locales and DSM-IV modernized analyses have given in figure 3. Which was finished by the Data mining investigation has given.

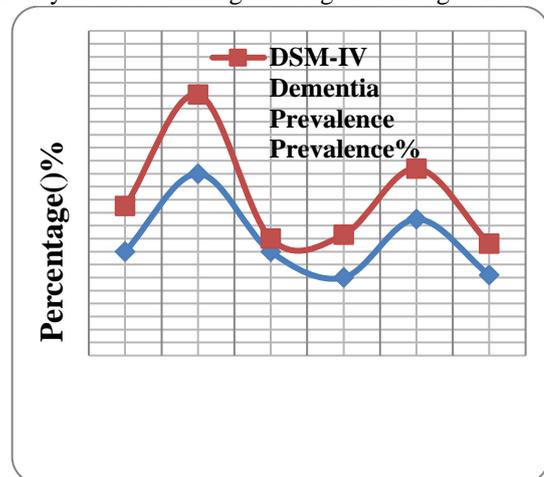


Fig. 3: Standardized dementia prevalence analysis by the 10/66 Dementia Research Group10/66 sites Vs DSM-IV computerized diagnoses

IV. PREVIOUS WORK

Unique in relation to inquiry feature digging that produces aspects for each question with no space suspicions or earlier information, some customary faceted search approaches are fundamentally based on a particular area or predefined feature classifications.

The objectives of planning an incorporated wellbeing examination length an entire patient's environment. The framework ought not exclusively to have the option to help to the arrangement of fruitful and convenient consideration by prescribing a down to earth conclusion which functioned admirably against comparable cases yet, in addition, can

foresee conceivable restorative aggravations that may happen. This incorporates utilizing the CEP (“Complex Events Processing”) for the assurance of an infection movement maybe could stop at this prior phases of advancement.

Kuo regard as the huge information test per phases are the huge information channel, Nabizadeh and Kubat include industrial particularly exact, small computational expenditure furthermore totally motorized scheme subject to quantifiable facial appearance withstood out this from Gabor wavelet features via a couple of classifiers to recognize sections are growth with depicting the tumor region as of MRI pictures. A fake neural framework stood methodology to perceive cerebrum tumor hankie as of MRI pictures. Comparable practicality of the shows of quantifiable features and Gabor wavelet features used for unusual covering classifiers had been rehearsed in its assessment. They affirmed with the purpose of their strategy carry out reasonably into assigning cerebrum growth tissues, which give high request accuracy and have a fundamental low computational cost. Regardless, their proposed exertion excluded surveying the tumors.

Kharat planned a fake neural framework based system to discover the varieties from the standard of a cerebrum growth on MRI pictures. The ANN is a blend of feed forward as well as analysis spread neural frameworks, counting different taking care of steps, for instance, division of a figure, mining of features as of the photos with taking in of a replica from the planning picture information.

From the above past work, the creators proposed their calculations to discover the tumors in the MRI picture, just they are finding the issues however they are not giving any data about the issues of cerebrum malady, drug, specialist subtleties, and danger of life. In Manu content the examination if giving answers for these issues, which makes simple to discover the answers for the clients.

## V. PROPOSED WORK

Faceted quest is a method for getting to the Attribute data composed by a faceted order framework, enabling clients to process, break down and explore through multidimensional information. It is broadly utilized in web-based business and computerized libraries. Faceted search is like question aspect extraction in that the two use sets of facilitating terms to speak to various features of an inquiry. Be that as it may, most existing works for faceted pursuit expand on a particular space of predefined classifications, while inquiry feature extraction doesn't limit questions in a particular area, similar to items, individuals, and so forth.

Inquiry feature extraction is the issue of discovering question aspects for a given question  $q$  from accessible assets, for example, web indexed lists. A query facet  $F = \{t\}$  is a lot of organizing terms, terms that are a bit of a semantic set, which we call highlight terms. Inquiry features know how to removed from a wide range of assets, for example, a question log, grapple content, scientific classification. In this work, we just spotlight on separating inquiry features from the top  $k$  web list items

$$k = \{k_1, k_2, k_3, k_4, \dots, k_n\} \rightarrow (1).$$

We expect to investigate the utilization of other data hotspots for this issue in future work.

## VI. RESULTS

At the point when a faceted search framework forms a query, its first task is to decide the arrangement of records that fulfill the question's limitations. This set recovery is direct and can be cultivated proficiently utilizing standard reversed file methods. The consequent Task, in any case, is to show the aspect esteems accessible for refining the arrangement of results. Furthermore, faceted inquiry applications frequently show the checks related to these refinements. The assignment of figuring refinements is essentially more requesting than that of processing the arrangement of results. One of the medical problem Brain illnesses has taken as a data mining object, and the algorithm was applied for its characteristics.

The question faceted outcome was simulated In High-level language. The total outcome was shown in the terminal dependent on the question. The various sorts of Data Attributes, in view of the Query, have given in Fig .5. The complete result was displayed in the terminal based on the query. The different types of Data Attributes, based on the Query have given in the listed figures. Here the result is explaining the types of Brain diseases, reason for Brain diseases, and it is suggesting about the medication, Doctors address and fee details. The Data Attributes has created in Excel which is interfaced with the local database. When one data attribute is activated automatically the related query will raise, based on the attribute selection it will fetch data or sub linked Data Attribute from the local server using linear search.

### 6.1 Finding Attributes & Linear search

The query facets algorithm follows the linear search algorithm for the attribute finding in the database. Whenever a user can raise his query the query was processed as an object, and the object compared linearly in the database. If any data was matched with the given query object then the information which is called attributes of the objects is displayed in the console.

### 6.2 Algorithm

Let us say  $X$  it is an object in the database which is related to health information of  $n$  attributes by means of standards  $X_0, X_1, X_2, \dots, X_{m-1}$ , in addition to the intended value  $Y$ , the subsequent subroutine uses a linear search to find the catalog of the object  $T$  in  $L$ .

set  $i$  to 0.

If  $X_i = Y$ , the search expires successfully; return  $i$ .

Increase  $i$  by 1.

If  $i < m$ , go to step 2. Otherwise, the look for concluding unsuccessfully.

6.3 Analysis

For Objects with  $m$  attributes, the best case is the point at which the worth is equivalent to the first attribute of the comparison, in which case just a single examination is required. The most pessimistic scenario is the point at which the worth isn't in the rundown where case  $m$  examinations are required.

In the event that the worth being looked for happens  $k$  times in the object list, and every one of orderings of the rundown is similarly possible, the normal integer of examinations is

$$\left\{ \begin{array}{ll} m & \text{if } k = 0 \\ \frac{m+1}{k+1} & \text{if } 1 \leq k \leq m \end{array} \right\} \rightarrow (2)$$

For instance, if the value being sought occurs once in the object list, and every ordering of the list are similarly probable,

Now the predictable number of comparisons is  $\frac{m+1}{2}$   
 $\rightarrow (3).$

though, if it is recognized that it occurs once, then at most  $m-1$  comparisons are desirable, Now the expected quantity of comparisons is  $\frac{(m+2)(m-1)}{2m} \rightarrow (4).$

The worst-case cost and the probable cost of the linear search be together  $O(m)$ .

For model, let us take one of the attribute is "BRAIN DISEASE" which is represented as  $B_{Disease}$  and Which we needed to search from the Data mining database, The worst-case cost and the likely cost of the linear search is  $O(N(Attributes))$  Where  $N(Attributes)$  is the total quantity attributes which are there in the mining database.

6.4 Simulated Result



Fig. 4: Home Button.

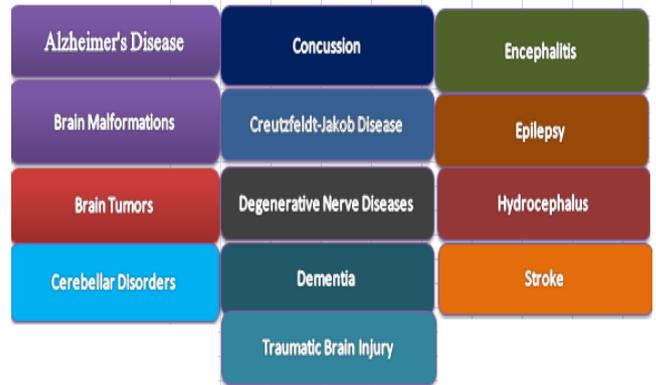


Fig. 5: Types of Brain Disease.

Table 2: Alzheimer's disease Details

Alzheimer's Disease	
Type of Attributes	Attribute information
Definition	Alzheimer's illness is an irreversible, dynamic mind issue that gradually crushes memory and thinking aptitudes and, in the long run, the capacity to do the least difficult assignments. It is the most widely recognized reason for dementia in more established grown-ups. While dementia is increasingly basic as individuals develop more seasoned, it's anything but an ordinary piece of maturing.
Symptoms	Memory misfortune Misguided thinking prompting awful choices Loss of immediacy and feeling of activity Taking more time to finish ordinary day by day assignments Relashing questions The issue dealing with cash and taking care of tabs Meandering and getting lost Losing things or losing them in odd spots Mind-set and character changes
Prevention & Treatment	Expanded nervousness or potentially animosity Exercise regularly. Eat a healthy diet that is rich in fruits and vegetables. Spend time with family and friends. Keep blood pressure and cholesterol at healthy levels. Maintain a healthy body weight. Stop smoking. Get help for depression. Avoid drinking a lot of alcohol. Get plenty of sleep. Magnetic Resonance Imaging (MRI) - Head Magnetic Resonance, Functional (fMRI)
Medication	Aricept® (donepezil) Exelon® (rivastigmine) Namzaric® (memantine and donepezil) Razadyne® (galantamine)

Table 3: Brain Tumors Details

Brain Tumors	
Type of Attributes	Attribute information
Definition	A cerebrium tumor is a development of anomalous cells in the tissues of the mind. Cerebrium tumors can be considerate, with no disease cells, or dangerous, with malignancy cells that develop rapidly. Some are essential cerebrium tumors, which start in the mind. Others are metastatic, and they start elsewhere in the body and move to the cerebrium.
Symptoms	Headaches, often in the morning Nausea and vomiting Changes in your ability to talk, hear or see Problems with balance or walking Problems with thinking or memory Feeling weak or sleepy Changes in your mood or behavior
Prevention & Treatment	Seizures avoid exposure to pesticides and insecticides. avoid exposure to carcinogenic chemicals. avoid smoking. avoid unnecessary exposure to radiation. Computed Tomography (CT) - Head Cerebrospinal Fluid (CSF) Analysis Magnetic Resonance Imaging (MRI) - Head Magnetic Resonance, Functional (fMRI)
Medication	Temozolomide Afinitor (Everolimus) Afinitor Disperz (Everolimus) Avastin (Bevacizumab) Bevacizumab BiCNU (Carmustine) Carmustine Carmustine Implant Everolimus Gliadel Wafer (Carmustine Implant) Lomustine Mvasi (Bevacizumab) Temodar (Temozolomide)

**Table 4: Traumatic Brain Injury**

Traumatic Brain Injury	
Type of Attributes	Attribute information
Definition	Horrible mind damage (TBI) happens when a knock, blow, shock, or other head damage makes harm to the cerebrum. Consistently, a large number of individuals in the U.S. endure mind wounds. The greater part is terrible enough that individuals must go to the emergency clinic. The most exceedingly awful wounds can prompt changeless cerebrum harm or passing. Half of all TBIs are from engine vehicle mishaps.
Symptoms	Slurred speech A headache that gets worse or does not go away Repeated vomiting or nausea Convulsions or seizures Inability to awaken from sleep Dilated eye pupils Weakness or numbness in the arms and legs
Prevention & Treatment	Make living and play areas safer for children Buckle Up Every Ride – Wear a seat belt every time you drive – or ride – in a motor vehicle. Never drive while under the influence of alcohol or drugs. Wear a helmet, Cognitive behavioral therapy Rehabilitation Computed Tomography (CT) – Head Magnetic Resonance Imaging (MRI) – Head
Medication	Diuretic Anti-seizure drugs Coma-inducing drugs

By using the linear search for the query Faceted search the simulated experimental result was depicted in **figure 4**, **figure 5**, and the suggestible treatment, medication, symptoms have given in the **Table 2**, **Table 3**, and **Table 4**

## VII. CONCLUSION

The usage of Data mining in the enrollment of the board is a truly new improvement. Current data mining is done on a very basic level on clear numeric and out and out data. Later on, data mining will join logically complex articles. Furthermore, for any model that has been arranged, further refinement is possible by assessing various attributes and their associations. In this Manuscript, the proposed query facets algorithm was successfully applied for the Brain diseases. The complete algorithm was developed in High-level language. Based on the user query the algorithm can fetches data from the data servers like information about the brain diseases, doctors information and their success rate, medication details, etc.

## REFERENCES

- 1 Durairaj, M., &Ranjani, V. (2013). Data mining applications in the healthcare sector: a study. International journal of scientific & technology research, 2(10), 29-35.
- 2 Rodger, J. A. (2015). Discovery of medical Big Data analytics: Improving the prediction of traumatic brain injury survival rates by data mining Patient Informatics Processing Software Hybrid Hadoop Hive. Informatics in Medicine Unlocked, 1, 17-26.
- 3 Pawar, D., &Lomte, V. M. (2017). A Survey on Automatically Mining Facets for Web Queries. International Journal of Electrical and Computer Engineering, 7(6), 3700.
- 4 Lu, H. Y., Li, T. C., Tu, Y. K., Tsai, J. C., Lai, H. S., &Kuo, L. T. (2015). Predicting long-term outcomes after traumatic brain injury using repeated measurements of the Glasgow Coma Scale and data mining methods. Journal of medical systems, 39(2), 14.
- 5 Stevens, R. D., & Sutter, R. (2013). Prognosis in severe brain injury. Critical care medicine, 41(4), 1104-1123.
- 6 Galanaud, D., Perlberg, V., Gupta, R., Stevens, R. D., Sanchez, P., Tollard, E., ... &Veber, B. (2012). Assessment of white matter injury and outcome in severe brain trauma prospective multicenter cohort. Anesthesiology: The Journal of the American Society of Anesthesiologists, 117(6), 1300-1310.
- 7 Vedantam, A., Robertson, C. S., &Gopinath, S. P. (2017). Morbidity and mortality associated with hypernatremia in patients with severe traumatic brain injury. Neurosurgical Focus, 43(5), E2.

- 8 Wilde, E. A., Li, X., Hunter, J. V., Narayana, P. A., Hasan, K., Biekman, B., ... & Chu, Z. D. (2016). Loss of consciousness is related to white matter injury in mild traumatic brain injury. Journal of neurotrauma, 33(22), 2000-2010.
- 9 Bahrami, M., &Singhal, M. (2015). The role of cloud computing architecture in big data. In Information granularity, big data, and computational intelligence (pp. 275-295). Springer, Cham.
- 10 Svenstrup, D. T. (2018). FindZebra-using machine learning to aid the diagnosis of rare diseases.
- 11 Gil, A. B., Rodríguez, S., de la Prieta, F., & De Paz, J. F. (2013). Personalization on E-content retrieval based on semantic web services. International Journal of Computer Information Systems and Industrial Management Applications, 5, 243-251.
- 12 Niaksu, O. (2015). CRISP data mining methodology extension for the medical domain. Baltic Journal of Modern Computing, 3(2), 92.
- 13 Riezler, S., Liu, Y., &Vasserman, A. (2008, August). Translating queries into snippets for improved query expansion. In Proceedings of the 22nd International Conference on Computational Linguistics-Volume 1 (pp. 737-744). Association for Computational Linguistics.
- 14 Shahiri, A. M., & Husain, W. (2015). A review of predicting student's performance using data mining techniques. Procedia Computer Science, 72, 414-422.
- 15 Kavaratzis, M., &Kalandides, A. (2015). Rethinking the place brand: the interactive formation of place brands and the role of participatory place branding. Environment and Planning A, 47(6), 1368-1382.

## AUTHOR PROFILE



P.Naga malleswara rao, research scholar in acharya nagarjuna university Guntur. Currently working as Assistant Professor, in the Department of Computer Science and Engineering, (Chintalapudi engineering College) ponnur, since 2015. My research area is Data mining and Big data and published several papers in National & International indexed journals .



Dr.V.V.Jaya Rama Krishnaiah, received Doctorate in Computer Science and Engineering from Acharya Nagarjuna University, Guntur, India. Currently working as Associate Professor, in the Department of Computer Science and Engineering, A.S.N. Group of Colleges, Tenali since 1999. My research area is Clustering in Databases and published several papers in National & International indexed Journals.