

Student Performance Drives Career: A Case Study

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Abstract—This research uses the marks of the students and their personal, family information and gives a way for the students to predict their future career and make a choice without confusion. The ability of following a performance of a student is very important in education. In present trend everyone need a good career in his/her educational. To overcome some of the problem in choosing the path in which stream to select, we use the classification techniques/data mining prediction algorithm which help for this study and analyze the attributes which is given by the student and produce a result for the future career growth.

Keywords—Data Mining, Decision Tree, Classification, Prediction

I. INTRODUCTION

Data mining concepts have a tremendous methodology and techniques to evaluate and classify with the given data and show the result using clustering/ classification technique. This project uses the marks of the students and their personal, family information and gives a way for the students to predict their future career and make a choice without confusion. The ability of following a performance of a student is very important in education. In present trend everyone need a good career in his/her educational. To overcome some of the problem in choosing the path in which

stream to select, we use the classification techniques/data mining prediction algorithm which help for this project and analyse the attributes which is given by the student and produce an result for the future career growth. The application is applicable when the student after completing the class 12 and are in confusion which course to opt for them. It will have great existence in student life by making the students' task easier by showing them which course to opt for, by taking the personal information, family information and educational information up to 12th class and show the result.

II. LITERATURE SURVEY

TITLE	AUTHOR	IDEA	TECHNIQUE
Performance improvement in education sector using classification and clustering algorithms	M.Sukanya, s.Birutha, Pr.S.Karthik, T. Kalaikumar, 2012	Academics performance is a based upon diverse factor like personal, social, etc. It provide valid information from existing student to manage relationship with upcoming students	Clustering/ Classification(Bayesian)
A study on student data analysis using data mining technique	Uma maheswari. K, S.Niraimathi, 2013	Student into grade order in all their education studies and it helps in interview situation. Examine for helping in rank order for the recruitment process	Clustering, Classification, Association Rule, Outlier detection
Prediction of student academic performance by an application of data mining techniques	Sajadin Sembiring, M. Zarlis, Dedy Hartama, Ramlina S, Elvi Wani, 2011	This determines whether a student will be an academic genius, a drop out, or an average performer	Smooth support Vector machine classification, Kernel K-means
Survey on Decision Tree Classification algorithms for the evaluation of Student Performance	Anju Rathee, Robin Prakash Mathur, 2013	This paper tells about different algorithms and evaluated with certain datasets, and made difference between them	Classification Algorithm, Decision Tress, ID3, C4.5, CART
Application of k-Means clustering algorithm for prediction of students' Academic performance	Oyelade O.J, Oladipupo O.O, Obagbuwa I.C	To monitor the progression of academic performance of students in higher Insitution for the purpose of making an effective decision by the academic planners.	k-Mean, Clustering

Mining Educational Data to Analyze Students Performance	Brijesh Kumar Baradwaj, Saurabh Pal, 2010	To extract knowledge that describes students performance in end semester examination and helps to identify the dropouts and student who need special attention and allow the teacher to provide appropriate advising	Decision Tree(Classification), ID3 Algorithm
Data Mining approach for predicting student performance	EdinOsmanbegovic, MirzaSuljic, 2012	The impact of students socio-demographic varibale, achieved results from high school and from the entrance exam, and attitude towards studying which can have an affect on success were all investigated	Decision Tree(Classification)
Evaluation of student performance with Data Mining : An Application of ID3 and Cart Algorithms	ManawinSongkroh, Andrea Ko, 2010	The process is complies with CRISP- DATA Mining to ensure its completeness and accuracy	CART Algorithm, ID3 Algorithm, RapidMiner
An Analysis of students Performance using Genetic algorithm	T.Miranda Lakshmi, A. Martin, V.PrasannaVenkatesan, 2013	The genetic process on the natural evolution principles of populations have been fairly successful at solving problems and produce optimized solution from generation to generation.	Genetic algorithm, RGSPAT model
Prediction of student performance by using data mining methods for classification	Dorina Kabakchieva, 2013	It is implemented at a bulgarian university, aimed at revealing the high potential of data mining applications for university management	CRISP-DM, Decision Tree, Weka Tool, OneR classifier
Mining Educational Data to Improve Students Performance	Mohammed M.AbuTair, AlaaM.El-Halees	Collecting the data and preprocessing the data with data mining techinques to extract knowledge and describe its importance in education domain	classification, Association rules, clustering, Outlier Detection
Predicting students performance using ID3 and C4.5 Classification algorithms	KalpeshAdhtrao, Aditya Gaykar, AmirajDhawan, RohitJha, VipulHonrao, 2013	Collecting the data of class X and XII marks and rank in entrance examinations and results in the first year of the previous batch of student. They predicted the general and individual perfomance of freshly admitted students in future examination	ID3, C4.5, HTML, CSS, PHP, Code Igniter Framework, MySQL, Rapid =Miner
Identificaton of potential student academic ability using comparison algorithm k-Means and farthest first	AthanasiaO.P.Dewi, WirantoH.Utomo, Sri Yulianto J.P, 2013	How to measure the potential of students academic skills by using the parameter values and the area by using clustering analysis comparing two algorithmskmeans and farthest first algorithm	WekaDatamining application, K-Means, Farthest First

III. SYSTEM ARCHITECTURE

Algorithm for Student Performance drives career

Step I: Connect to data base

Step II: Take phone number as input

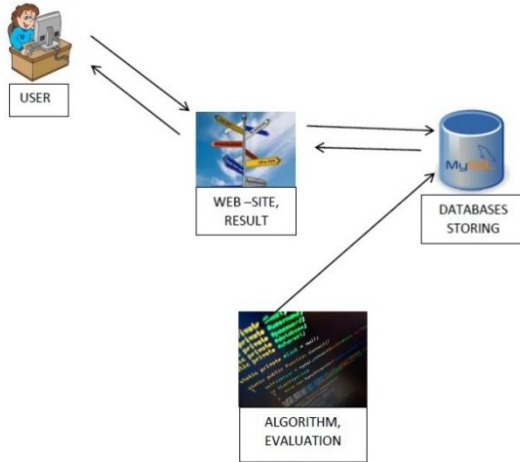
Step III: Retrieve marks for Math, Phy, Chem, Biology from Class 12 data base where ph no is same as input

Step IV: Add all the marks

Step V: Retrieve marks for Math, Phy, Chem, Biology from Mean data base

Step VI: Now add all the marks received from Mean data base and validate the result

Step V: If the total mark of the student is less than the total mark of mean data base
 Step VI: Then display that student name as a poor performer
 Step VII: End of algorithm



IV. DETAILED MODULES

Actual predicted calculation and pruned tree Module
 This module calculates by taking the arff file and by using naive Bayes it gives output as actual and predicted ed combined with the pruned tree J48.

Weka Tool Module

The Weka Tool module load the arff file and preprocessed and by selecting the classify technique as Nave Bayes shows the output as Mean values.

Mean Value Storing Module

The Mean Value Storing module stores the Weka tool result and separates the mean values and store in mean excel file and that mean excel file values is stored in database.

Signup Module

This module signing up for an account to be created so the information will be stored inside the database. The inputs are like name, email-id, phone number, etc.

Login Module

This module takes the roll number as user name and password, so when the user gives input it will be validated and send to main page.

Edit Information (Personal, Family, Educational) Module

This module take input from the user and validates with normal with the html, php code and save inside the database.

View Information (Personal, Family, Educational) Module

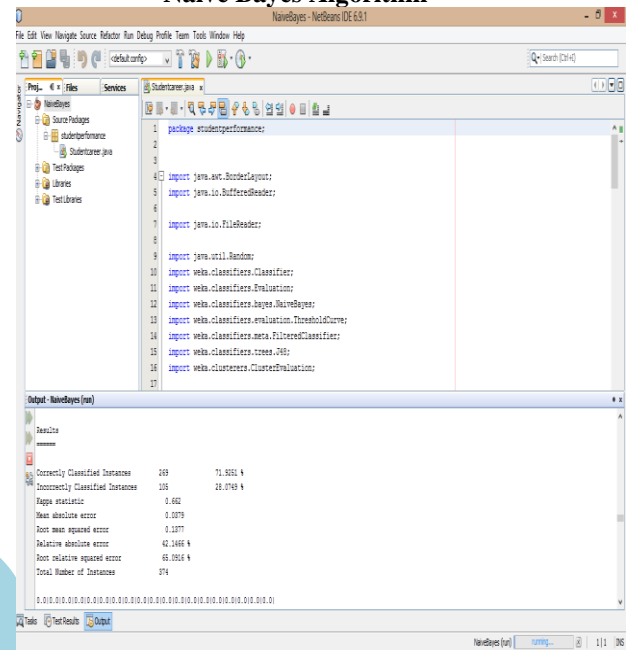
This module takes phone number or roll number to retrieve the information from the database and show in html page.

Career after 12th class Module

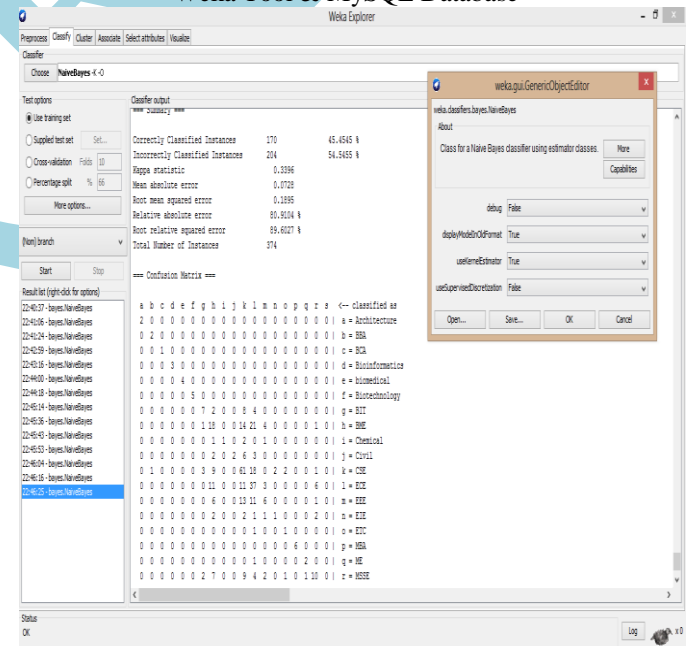
This module takes input as phone number and checks the user information marks with the mean value which is calculate d from server side and retrieve the branches from the database and show in html page.

V. SNAPSHOTS

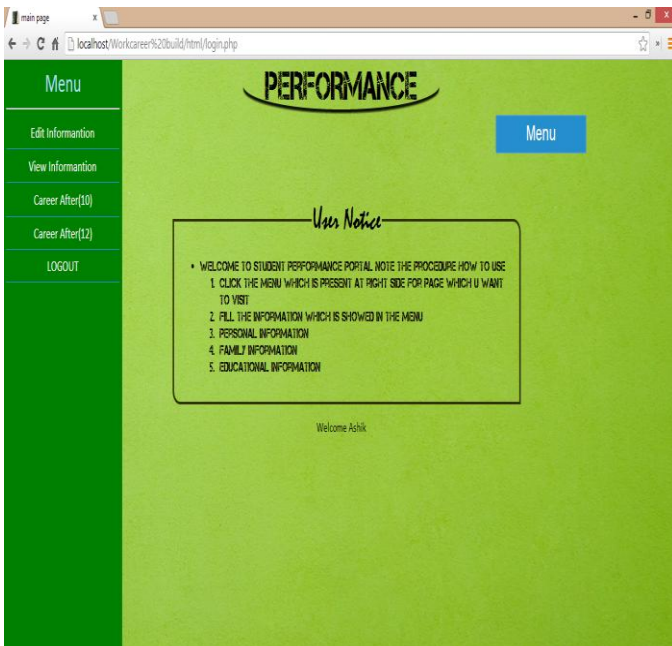
Naïve Bayes Algorithm



Weka Tool & MySQL Database



User Interface



VI. CONCLUSION

The application takes personal, family, educational information from student which is logging in the existing system and will be a great strength for the system. The user now really finds the easiest way to find which branches to be chosen with the help of this application, viewing information and the predicted branches which the student is need to take is present. In this way the application could succeed in reaching the goals which leads to an efficient and proper output.

REFERENCES

- [1]. Robin Prakash MathurAnjuRathee. Survey on decision tree classification algorithms for the evaluation of student performance. International Journal of Computers and Technology, 4:244–247, Mar-13.
- [2]. Sri Yulianto J.P AthanasiaO.P.Dewi, WirantoH.Utomo. Identification of potential student academic ability using comparison algorithm k-means and farthest first. International Journal of Computer Applications, 63:18–26, Feb-13.
- [3]. Saurabh Pal Brijesh Kumar Baradwaj. Mining educational data to analyze students performance. International Journal of Advanced Computer Science and Applications, 2:63–69, 2011.
- [4]. MirzaSuljicEdinOsmanbegovic. Data mining approach for predicting student performance. Journal of Economics and Business, X:3–12, May-12.
- [5]. DorinaKabakchieva. Prediction of student performance by using data mining methods for classification. CYBERNETICS AND INFORMATION TECHNOLOGIES, 13:61–72, 2013.
- [6]. Amiraj Dhawan Rohit Jha Vipul Honrao Kalpesh Adhtrao, Aditya Gaykar. Predictingstudentsperformanceusingid3andc4.5classificationalgorithms. International Journal of Data Mining and Knowledge Management Process, 3:39–52, Sep-13.
- [7]. Andrea KoManawinSongkroh. Evaluation of student performance with data mining : An application of id3 and cart algorithms. The Fourth International Conference on Software, Knowledge,Information Management and Applications, pages 276–282, Aug-10.
- [8]. AlaaM.El-Halees Mohammed M.AbuTair. Mining educational data to improve students performance. International Journal of Information and Communication Technology Research, 2:140–146, Feb-12.
- [9]. Pr.S.Karthik T. KalaikumarM.Sukanya, s.Birutha. Performance improvement in education sector using classification and clustering algorithms. International Conference on Computing and Control Engineering, 2012.
- [10]. Obagbuwa I.C Oyelade O.J, Oladipupo O.O. Application of k-means clustering algorithm for prediction of students' academic performance. International Journal of Computer Science and Information Security, 7:292–295, 2010.
- [11]. DedyHartamaRamlia S ElviWaniSajadinSembiring, M. Zarlis. Prediction of student academic performance by an application of data mining techniques. International Conference on Management and Artificial Intelligence, 6:110–114, 2011.