Higher Education Recommendation System

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Abstract: This system helps students to perform for the admission test online and provides college list according to the marks. The system main objective is to offer a quick and easy way to appear the exam and it also provides results immediately after the exam. An examination is conducted to provide special advantages to the students that can't be found anywhere else. This software application is built to check answers in an online examination and allocate marks to the user after verifying the answer. The overall success of educational institutions can be measured by the success of their students. Providing factors that increase the success rate and reduce the failure of students is profoundly helpful to educational organizations.

The survey consists of questions that cover the fields, such as academic performance, most related to and affect the performance of students. Total questionnaires were collected and the result will be declared. Data mining is the best solution to finding College for Higher education. Data mining gives suggestions that enhance the performance of students using NLP and KNN Algorithm.

Keyword: Decision trees, NLP, KNN, logistic regressions, machine learning, strategic decisions, Higher Educational Institutions.

Introduction:

The increasing volume of data and using them to increase students' performance is one of the major challenges of higher education institutions. Higher education institutions are generally interested in the success of students during their studies. Higher education institutions, in a lifetime of teaching, have a large data set of student information stored in their databases. However, storage is not a Handling data, extracting relevant problem. patterns, and discovering knowledge stored in the massive database is tremendously difficult.

Higher education institutions, in a lifetime of teaching, have a large data set of student information stored in their databases. However, storage is not a problem. Handling data, extracting relevant patterns, and discovering knowledge stored in the massive database is tremendously difficult. Nevertheless, in the distance and homogenized academic models, the podium offers a lot of resources. the number of systematic data is natural as a result of the computer area unit extremely appropriate and sensible for this work. The stored information isn't enough once administrators and manager's unit deciding. academic area information, whether or not it's consistently or

manually hold on, ought to be analyzed to supply a correct presentation of valuable data to support these advanced processes.

Related work:

The related work on where it shows are in the trend of usage. Furthermore, it is observed that recent studies are not focused

on directors or administrators as most of the research was limited to specific stakeholders, mainly students and teachers, although the same classification algorithms as related works are used, they differ from our research. (I) Our data comes from a face-to-face educational model. (II) Due to more features are included, algorithms architecture differs. (III) The stakeholders are directors and deans HEIs which have particular visualization results needs, and have not been addressed before. (IV) Strategic decisions are supported when the right information is given to the high chain management as would be exposed in Section 3. In a public university in Brazil [1] they used four prediction techniques: Support Vector Machine, Decision Tree, Neural Network and Naive Bayes to predict students' failure rates in introductory programming courses. To this aim, data was extracted from distance education. After applying data preprocessing and algorithm _netuning, the effectiveness of these algorithms was improved. First, they reduce the number of attributes and balance the information by applying the Synthetic Minority Over-Sampling Technique. Then they Neptune the data according to the parameters in each algorithm. Like them, we compare Machine Learning algorithms using

the effectiveness metric to predict student's failure rates. Besides, our research is allocated on predictive models from educational data. However, the focus in our research is on graduation rates, involving the whole curriculum rather than a particular subject. Moreover, stakeholders and educational model are also different. Preprocessing data considering the number attributes is held to this aim. This analysis of the related work also corroborated what was stated in our prior work [2], [3], [5], [6]; reviewed researches haven't solved Directors and Managers necessities when it comes to making a decision. Their primary goal is not focused on supporting the strategic level in universities. Although few of the works involved Machine Learning algorithms in their development, the stakeholders are mainly students and teachers and seek to fulfill their requirements and not the academic as a whole.

Motivation:

- This application can be used to detect College for higher education.
- In this project, KNNs have been applied for classification and NLP use to extract information.
- After the prediction of marks and performance, we can provide or recommend college for higher education.

System Architecture:

We are going to developed feature higher education prediction systems based on Student academic marks like 10,12th marks and so many other attributes and also we will help the student to get the best stream and get based college. We are using KNN

for classification and NLP (Natural language processing) for extracting information.

Propose Diagram

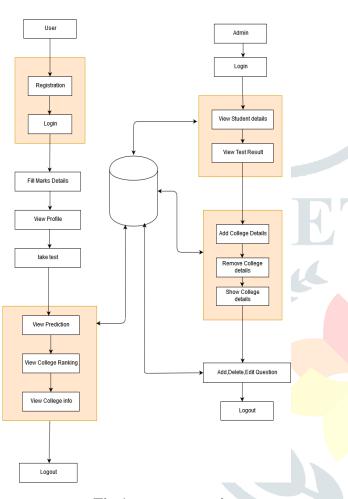


Fig 1 system overview

This system helps students to perform for the admission test online and provides college list according to the marks. The system main objective is to offer a quick and easy way to appear the exam and it also provides results immediately after the exam.

Conclusion: We proposed higher education prediction systems based on Student academic marks and tests we will help the student to get the best stream and get the best college on their performance. Machine Learning supports this

process providing various algorithms suitable to the different kinds of data and the different kinds of predictions required.

Reference:

[1] E. B. Costa, B. Fonseca, M. A. Santana, F. F. de Araújo, and J. Rego, "Evaluating the effectiveness of educational data mining techniques for early prediction of students' Academic failure in introductory programming courses," *Comput. Hum. Behav.*, vol. 73, pp. 247_256, Aug. 2017.

[2] Y. V. N. Acevedo and C. E. M. Marín, "System architecture based on learning analytics to educational decision maker's toolkit," *Adv. Comput. Sci. Eng.*, vol. 13, no. 2, pp. 89_105, 2014.

[3] Y. Nieto, V. García-Díaz, C. Montenegro, and R. G. Crespo, "Supporting academic decision making at higher educational institutions using machine learning-based algorithms," *Soft Comput.*, vol. 23, no. 12, pp. 4145_4153, 2018.

[4] Y. V. Nieto, "Modelo de un sistema de software basado en las técnicas de learning analytics como herramienta de apoyo en la toma de decisions Académico administrativas en las Instituciones públicas de educación superior," Univ. Distrital Francisco José de Caldas, Bogotá, Colombia, Tech. Rep. 131115, 2015.

[5] Y.V. Nieto, V. G. Diaz, and C. E. Montenegro, "Academic decision making model for higher education institutions using learning analytics," i

[6] K. V. Pincus, D. E. Stout, J. E. Sorensen, K. D. Stocks, and R. A. Lawson, "Forces for change in higher education and implications for the accounting academy," *J. Accounting Educ.*, vol. 40, pp. 1–18, Sep. 2016.

[7] A.-P. Pavel, A. Fruth, and M.-N. Neacsu, "ICT and e-learning_Catalysts for innovation and quality in higher education," *Procedia Econ. Finance*, vol. 23, pp. 704_711, Jan. 2015.

[8] F. V. Elena, A. M. Manuel, and G. G. S. Carina, "Which use give teachers

at La Laguna University to ICTs?" *Procedia-Social Behav. Sci.*, vol. 93,

pp. 1646_1651, Oct. 2013.

[9] H. M. Vo, C. Zhu, and N. A. Diep, "The effect of blended learning on student performance at course-level in higher education: A meta-analysis," *Stud. Educ. Eval.*, vol. 53, pp. 17_28, Jun. 2017.

[10] I. M. Taucean and M. Tamasila, "Research challenges for eLearning

support in engineering and management training," *Procedia-Social Behav*.

Sci., vol. 124, pp. 210_218, Mar. 2014.

[11] E. Faham, A. Rezvanfar, S. H. M. Mohammadi, and M. R. Nohooji, ``Using system dynamics to develop education for

sustainable development in higher education with the emphasis on the sustainability competencies of students," *Technol. Forecast. Social Change*, vol. 123, pp. 307_326, Oct. 2017.

[12] F. A. Goni, A. G. Chofreh, M. Mukhtar, S. Sahran, S. A. Shukor, and J. J. Kleme², ``Strategic alignment between sustainability and information systems: A case analysis in Malaysian public higher education Institutions," *J. Clean. Prod.*, vol. 168, pp. 263_270, Dec. 2017.

[13] I. González-González and A. I. Jiménez-Zarco, "Using learning methodologies and resources in the development of critical thinking competency: An exploratory study in a virtual learning environment," *Comput. Hum. Behav.*, vol. 51, pp. 1359_1366, Oct. 2015.

[14] F. Moreira, M. J. Ferreira, C. P. Santos, and N. Durão, "Evolution and use of mobile devices in higher education: A case study in Portuguese higher education Institutions between 2009/2010 and 2014/2015," *Telematics Inform.*, vol. 34, no. 6, pp. 838_852, Sep. 2017.

[15] U. M. Azeiteiro, P. Bacelar-Nicolau, F. J. P. Caetano, and S. Caeiro,

"Education for sustainable development through elearning in higher education:

Experiences from Portugal," J. Clean. Prod., vol. 106, pp. 308_319, Nov. 2015.

[16] K. H. Wang, N. J. Ray, D. N. Berg, A. T. Greene, G. Lucas, K. Harris, A. Carroll-Scott, B. M. Tinney, and S. Rosenthal, ``Using communitybased participatory research and organizational diagnosis characterize to relationships between community leaders and academic researchers," Pre-ventive Med. Rep., vol. 7, pp. 180_186, Sep. 2017.

[17] A. Valentín, P. M. Mateos, M. M. González-Tablas, L. Pérez, E. López, and

I. García, "Motivation and learning strategies in the use of ICTs among

University students," *Comput. Educ.*, vol. 61, pp. 52_58, Feb. 2013.

[18] C. Hopp and G. A. Hoover, "How prevalent is academic misconduct in management research?" *J. Bus. Res.*, vol. 80, pp. 73_81, Nov. 2017.

