University Prediction Based on Machine Learning

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Abstract- *University prediction is a kind of predictive analysis system which takes the user's academic data and analyze it so that the user can check their eligibility criteria in the university they are eligible. Using predictive analysis techniques and few ML algorithms such as logistic regression algorithm it analyses the data. In this system we have two kinds of users i.e. system admin and an end user such as a student, parent or career counsellors. What makes this system different from other similar systems like it is that here you get a unbiased result based on the previous records. We say it like a human interacting directly with a machine, that also says like no role of a human involved in guiding a student. That says our main purpose for developing this system.*

Keywords- Machine learning,J2EE,spring boot, maven, Design with HTML and CSS, hibernate query language, amazon web services, relational database system, cloud hosting.

I. INTRODUCTION

University prediction based on machine learning is a web-app whose main goal is to provide students with an unbiased predictive results using predictive analysis and logistic regression algorithm. The end user will have to enter all his academic details and this data will be used to predict the result. We also have a admin role in this system who manages user and university related data. Admin has authority to change the evaluation criteria. Also admin has authority to improve security for verified users.

The student can make his portfolio and on basis of all the fields provided , they can apply for their profile evaluation and by the use of machine learning algorithm their profile gets analyzed and can see their eligibility chances in any particular university. Apart from the students , their parents or guardians who wish their child bright career can also be beneficial from this platform and can see what the children may get with that academic profile.

II. LITERATUREREVIEW

A. The J2EE application model divides enterprise applications into three fundamental parts: components, containers, and connectors. Components are the key focus of application developers, while system vendors implement containers and connectors to conceal complexity and promote portability.

B. Spring Boot is an framework used to create a micro Service. It is developed by Pivotal Team and is used to build stand-alone and production ready spring applications.

C. The Spring Framework is an application framework and inversion of control container for the Java platform. The framework's core features can be used by any Java application, but there are extensions for building web applications on top of the Java EE (Enterprise Edition) platform. Although the framework does not impose any specific programming model, it has become popular in the Java community as an addition to the Enterprise JavaBeans (EJB) model.

D. Hibernate Query Language (HQL) is an object-oriented query language, similar to SQL, but instead of operating on tables and columns, HQL works with persistent objects and their properties. HQL queries are translated by Hibernate into conventional SQL queries, which in turns perform action on database.

E. Amazon Relational Database Service (Amazon RDS) is a managed SQL database service provided by Amazon Web Services (AWS). Amazon RDS supports an array of database engines to store and organize data and helps with database management tasks, such as migration, backup, recovery and patching.

F. Maven is A comprehensive model for projects, which is reusable, maintainable, and easier to comprehend. Plugins or tools that interact with this declarative model.Maven project structure and contents are declared in an xml file, pom.xml, referred as Project Object Model (POM), which is the fundamental unit of the entire Maven system. In later chapters, we will explain POM in detail.

G. The Spring Framework is an application framework and inversion of control container for the Java platform. The framework's core features can be used by any Java application, but there are extensions for building web applications on top of the Java EE platform.

H. Maven is a build automation tool used primarily for Java projects. Maven can also be used to build and manage projects written in C#, Ruby, Scala, and other languages.

The Maven project is hosted by the Apache Software Foundation.

I. This paper will discuss what university prediction based on machine learning is, how a user can be benefited from it and what are the critical success factors implementing predictive analysis. Moreover it will talk about the most common feature i.e. use of secured web-app built using spring boot framework of java and AWS cloud hosting.

J. Many research studies have found that predictive analytics and use of logistic regression algorithm have huge potential for data analytics and is also supportive to the spring framework.

III. DESIGN AND DEVELOPMENT

Our project main goal is to provide unbiased results to its users and provide a better platform for analyzing their eligibility chances in the university they are looking. Our main motive was also to make anything which included the use of cloud hosting. So during the development of the database we used Amazon Web Service- Relational Database service. We used logistic regression algorithm for analytical solutions. We made a simple flow diagram for better representation of the user and admin roles, the figure of the use case diagram is below.
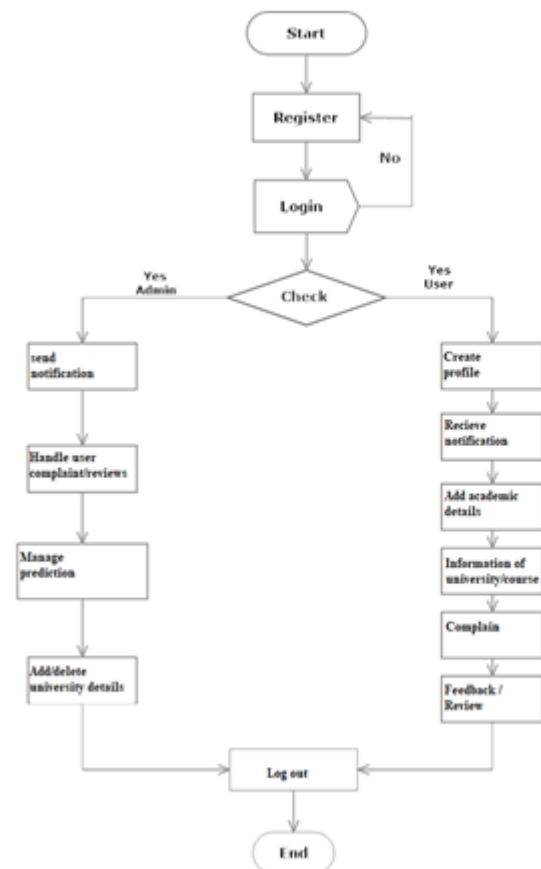
IV. STUDYFINDINGS

A. The current system of this is able to predict the result based on the data entered by the user and helps them to get confidence about their university selection. The system may fail if the data entered by the user is incorrect or entered wrong. If we want to train the data in the live system that needs lots of effort and time.

B. This system serves the user to understand the universities acceptance rate and the level they want to maintain. The user will also be able to check the courses offered by the university they choose.

C. The user will have to register himself to access the facilities provided by the system. There will be a user-admin communication- the user will be able to give his valuable feedbacks on the system or will also be able to report any problem he might have faced and the admin will be the responsive person who will be managing this.

D. Every user should know basics of net browsing and they must have basic knowledge of English language. User have to login one time. User must have knowledge of academic profile and must be a graduate. They have to create their account first for basic needs.

E. Admin is an entity that will manage entire system. Adminhavemustauthorized.Adminhaveallrightstoperformi nganytypeofgivenrightstothegivenuserbecause they will have highest level of access the rights. Admin have under observation of some are as like database, security, integration and management.

F. The minimum hardware requirement is Any Pentium processor, Hard Disk of 1GB or more, processor having at least 4GB of RAM, Internet router, monitor resolution of 1024*768 or higher.

V. FUTUREENHANCEMENT

We are planning to add predictions for all study levels i.e. undergrad studies or may be doctorate. If the current system is found successful then we would also develop an app for the same. Technological enhancement on this system may be for improving the analytics and algorithm.

VI. CONCLUSION

This system helps user to predict their eligibility chances to get into the chosen universities, it provides an unbiased analysis from the academic data of the user. The reality, robustness and correctness of the system exact need more elaborate study to help the admin, also it is responsible for managing the records of user.

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