**Chapter 02**

**Review of Literature**

**2.1 Domain Explanation**

**2.2 Existing System**

A lot of research has been done on the topic of placement prediction in the past decade. Different researcher used different methods to produce intended results. Naik et. al. (2012) used classification algorithm to predict final result and placement of the students. They used data mining techniques for producing knowledge about students of Master of Computer Application (MCA) course before admitting them to the course. The overall error occurred to classify validation data using MCA result prediction classification tree was 38.46% while for validating placement prediction classification tree it was 45.38%. Sharma et.al. (2014) used logistic regression model to create a Placement Predictor System (PPS). They generated results from an open source GNU Octave programming tool which brings about 83.33% accuracy. Another approach for placement prediction is taken by Bhatt et. al. (2015) where they used ID3 Decision Tree Algorithm. While predicting the placement they incorporated both qualitative and quantitative parameters of a student to achieve better results. Giri et. al. (2016) used machine learning model of K-Nearest Classifier to predict probability of a undergrad student getting placed in an IT company[3]. They compared the results of the same against the results obtained from other models like Logistic Regression and SVM and proved that KNN produces better results.

Based on above research, we proposed usage of Artificial Intelligence for placement guidance which will provide higher accuracy compared to other algorithms. Though attempts were made to create such system taking into consideration both qualitative and quantitative parameters; amount of qualitative factors considered for the same was very less which we intend to change by using more than fifty qualitative parameters which constitutes an important role in placement of a student consequently improving the accuracy of the system.

Currently, for preparing for an interview, the interviewee needs the help of a human being to ask questions and rate himself/herself on the basis of answers given by the interviewer. The rating given by different interviewers may be biased in terms of the knowledge possessed by the person on the concerned field. Also, the level of interviewee may not be known by the interviewer, which may sometimes lead to very difficult and very easy questions asked by the interviewer. All this makes the process of evaluation of himself/herself all the more difficult.

**2.2.1 Drawbacks of the Existing System**

The existing system of the interviewing the candidates manually suffer from the following drawbacks:

**2.2.2 Investment of time by the interviewer**

In the current system, a human being is required to interview the candidate. The interviewer has to spend time in analysing the expertise of the interviewee and prepare the questions accordingly.

**2.2.3 Insufficient knowledge of interviewer on the subject the interviewee expects questions**

It is highly difficult for a single interviewer to possess all the knowledge on the subject which the interviewee wants the questions to be asked on. For example, a computer engineer fresher preparing for an interview will have to prepare for quantitative analysis (mathematics) as well as on technical aspects. However the interviewer may not possess a higher amount of knowledge on both the subjects.

**2.2.4 Incorrect estimation of interviewer on level possessed by interviewer**

The interviewee may be a beginner in one subject, intermediate in another and advanced in some other subject. The intermediate level can still be broken down further into immediate intermediate, middle intermediate and advanced intermediate. Guessing the correct level of subject by the interviewer for the interviewee, thus becomes difficult.

**2.2.5 Discrepancies in score generated by different interviewers**

For an interviewee to evaluate himself/herself on different subject, he/she may take help of a number of interviewers. The score given by different interviewers are based on the judgments given by them. This leads to incorrect score generation. The score is not uniform and errors may be made by different interviewers.

**2.2.6 Feedback given by interviewers**

The feedbacks given by different interviewers are based on what they interviewed the interviewee on. There is not general level feedback that can be provided. Different feedbacks provided may lead to a number of tasks to be performed by interviewee. This may lead to confusion and repetition of work that needs to be carried out for improvement of the performance interviewee.

**2.3 Hardware Requirements**

* 1GB of RAM
* Processor: Pentium or Higher
* Internet Connection: 512 Kb/s or above.
* Screen Resolution: 1020 x 768 (or above)
* Disk Storage for Database : 10 GB

**2.4 Software Requirements**

* Browser ( preferably Chrome or Firefox )
* Operating System : Windows, Linux, OSX.
* Text Editor : Sublime / Visual Studio Code
* Development Environment: React.JS , MongoDB, Node.JS, Python 3.0