SHREE CHANAKYA EDUCATION SOCIETY

INDIRA COLLEGE OF COMMERCE AND SCIENCE PUNE.

Project Synopsis On

INTERVIEW SYSTEM USING MACHINE LEARNING

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INTRODUCTION:

The “INTERVIEW SYSTEM with MACHINE LEARNING” is used to overcome the problem faced by many companies to interview the candidates manually which is time consuming and expensive. This system can take interview of several candidate at same time and can judge the candidate on equals standards. And help companies to get qualified and well-deserved candidates.

As unemployment is increasing and there are many people in need of job it is hard to interview every person manually. This system automates the interview process and help people to get their dream job and job they really deserve. Today industrial sector is booming with new technologies there are many new openings for jobs for which many companies are looking for new employees with the required skills as per the company. In today’s placement system we search for a job and if there are openings in any company, we apply for that job and we need to wait for a date for an interview. In an interview, we interact with the interviewer then after a few days company declares the result, and if we fail in the interview again the same process is repeated.

To overcome this length and time-consuming process we have automated interview system.

SCOPE OF THE SYSTEM:

It will help to improve the traditional recruitment system, this system will help to reduce the stress on manual system. As this system is fully automated so the chances of error in recruitment system are very low as compared to the traditional system. And the all candidate will be judge on the same standards.

- Today many candidates apply to number of companies, and they must attend each interview at different time, this problem can be solved by attending only one interview that will conducted at global companies' standard so candidate can share the result of that interview to various company.
- It can happen to someone that by some reason our interview cannot go as we planned, and we can get rejected, and no proper feedback is provided so we can improve in our interview for next time, to overcome this problem we can interview on INTERVIEW SYSTEM number of time so we can increase our result. And proper feedback with proper interview result will be provided so candidate can improve in interview next time.
- And if happen some interviewers are not fair to everyone or there is interviewer with different standard so the decision of selecting the candidate can be biased, so this system come up with fully unbiased decision to accept or reject the candidate.

OPERATING ENVIRONMENT HARDWARE AND SOFTWARE:

SOFTWARE REQUIREMENTS:

PREINSTALLED	PIP, GitHub
PROGRAMMING LANGUAGE	Python
TOOLS	Jupyter Notebook
TECHNOLOGY	OpenCV, NLP, NN

HARDWARE REQUIREMENTS:

PROCESSOR	Intel i3 and above.
RAM	2GB and above.
HARD DISK	20GB and above.

PROBLEM DEFINITION:

I. TIME CONSUMING PROCESS:

The person needs to wait for the opening of the job and then he needs to wait for the result of the interview if the person does not clear the interview, he must again give an interview to another company.

II. NO PROPER FEEDBACK PROVIDED:

If the person fails in the interview no proper feedback is provided to him. So, when he tries the next interview there is a high chance that he may repeat the same mistakes.

III. CAN'T CHOOSE THE WORK:

If a person is giving an interview and due to some reason (technical issues, health issues, etc.) his interview does not go well, he does not get other changes for his interview.

IV. LACK OF OPPORTUNITIES:

It is hard for the person to get a place in his dream company because that company only interviews
students at a specific college.

- ## FEASIBILITY STUDY:

After doing the project Interview System, study and analyzing all the existing pr required functionalities of the system, the next task is to do the feasibility study for the project. All projects are feasible – given unlimited and infinite time.

Feasibility study includes consideration of all the possible ways to provide a solution to the given problem. The proposed solution should satisfy all the user requirements and should be flexible enough so that future changes can be easily done based on the future upcoming requirements.

- TECHNICAL FEASIBILITY:

This included the study of function, performance and constraints that may affect the ability to achieve an acceptable system. For this feasibility study, we studied complete functionality to be provided in the system, as described in the System Requirement Specification (SRS) and checked if everything was possible using different type of Machine Learning Algorithms.

- ECONOMIC FEASIBILITY:

This is a very important aspect to be considered while developing a project. We decided the technology based on minimum possible cost factor.

All hardware and software cost must be borne by the organization.

Overall, we have estimated that the benefits the organization is going to receive from the proposed system will surely overcome the initial costs and the later running cost for system.

- OPERATIONAL FEASIBILITY:

The proposed system is based on MACHINE LEARNING algorithms, and it is based on live data processing and predicting the output at the real time. Besides, a proper training has been conducted to let know the essence of the system to the users so that they feel comfortable with new system. This system is supported and runs smooth on every device.

TECHNOLOGY USED:

- OpenCV:

  OpenCV (*Open-Source Computer Vision Library*) is a library of programming functions mainly aimed at real-time computer vision. Originally developed by Intel, it was later supported by Willow Garage then Itseez (which was later acquired by Intel).
  OpenCV is written in C++ and its primary interface is in C++, but it still retains a less comprehensive though extensive older C interface.
  All the new developments and algorithms appear in the C++ interface.
  There are bindings in Python, Java, and MATLAB/OCTAVE.
  OpenCV runs on the following desktop operating systems: Windows, Linux, macOS, FreeBSD, NetBSD, OpenBSD.
  OpenCV runs on the following mobile operating systems: Android, iOS, Maemo, BlackBerry 10. The user can get official releases from SourceForge or take the latest sources from GitHub. OpenCV uses CMake.

- CNN (Convolutional Neural Network):

  A convolutional neural network (CNN) is a type of artificial neural network used in image recognition and processing that is specifically designed to process pixel data.

  CNNs are powerful image processing, artificial intelligence (AI) that use deep learning to perform both generative and descriptive tasks, often using machine vison that includes image and video recognition, along with recommender systems and natural language processing (NLP).

A neural network is a system of hardware and/or software patterned after the operation of neurons in the human brain. Traditional neural networks are not ideal for image processing and must be fed images in reduced-resolution pieces. CNN have their “neurons” arranged more like those of the frontal lobe, the area responsible for processing visual stimuli in humans and other animals. The layers of neurons are arranged in such a way as to cover the entire visual field avoiding the piecemeal image processing problem of traditional neural networks.

A CNN uses a system much like a multilayer perceptron that has been designed for reduced processing requirements. The layers of a CNN consist of an input layer, an output layer and a hidden layer that includes multiple convolutional layers, pooling layers, fully connected layers, and normalization layers. The removal of limitations and increase in efficiency for image processing results in a system that is far more effective, simpler to trains limited for image processing and natural language processing.

- NLP (NATURAL LANGUAGE PROCESSING):

  NLP stands for Natural Language Processing, which is a part of Computer Science, Human language, and Artificial Intelligence. It is the technology that is used by machines to understand, analyze, manipulate, and interpret human's languages. It helps developers to organize knowledge for performing tasks such as translation, automatic summarization, Named Entity Recognition (NER), speech recognition, relationship extraction, and topic segmentation.

ADVANTAGES:

- AI will create your profile on the bases of your interview.
- Timesaving as one interview is enough for making his profile.
- Energy-saving as the interview is analyzed with help of AI, so no need for a real interviewer is required.
- The interview is analyzed and proper feedback about the interview of that person is provided by AI so that person can prepare well for his next interview if he wants to update his profile.
- Countless chances are provided so the person can update his profile as much time he wants.
- A person can choose his job and field in which he is interested.
- A person can place in his dream company and his profile is made available for call companies all over the globe.