

MOCK MENTOR

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ABSTRACT

Interviews are crucial for candidates because they are the occasion when all of your efforts are tested in order to get the desired and profitable outcomes in life. It is extremely important to our educational system and hiring procedure since they help in making the best choice of applicant based on qualifications. Through practice interviews, we may improve our communication and self-assurance using text speech, which will help us perform better by speech out along with prompting questions. This article proposed an AI-based platform for mock interviews that would serve as a conduit between practice mode and the actual interview. Based on an amalgamation of three factors named emotions, confidence, and knowledge base, our system will evaluate the user. Haar cascade frontal face is used to analyze facial expressions to determine emotions. speech recognition is based on speech synthesis api and Pydub au which will be used to identify the feeling among the 7 categorical emotions and evaluate confidence using Haar cascade frontal face algorithm. this technique will boost a candidate's confidence in addition to reducing stress and anxiety before a real job interview. Students that are getting ready for interviews can benefit from the mock mentor method. Prior to an interview, candidates take a practice test to ease their stress and anxiety levels and improve the interview process. It is the candidate's own appraisal of themselves. It involves user and computer interaction. The constructed database in mysql contains the questions and responses. The user's answers are compared to the answers kept in the database, and the output is an analysed summary report that is used to gauge the correctness using sentence matching technique.

Keyword:- Haar cascade frontal face algorithm, text speech, sentence matching, mysql, speech recognition.

I. INTRODUCTION

An important step in the hiring process is the interview. It aids a recruiter in determining whether a candidate is the best choice for a position and evaluates the candidate. whether or not they are suited for the job. The duration of an the average interview lasts 45 to 90 minutes (about 1.5 hours). Human psychology states that a person only 7 seconds to make a good first impression, and as we recognizing that a first impression can be a lasting one. When this Candidates often experience a great deal of anxiety when it comes to good, make an effort to awe their recruiter and avoid coming across as maintain eye contact while feeling confident. Eye contact is a recent statistical analysis about interviews showing that it's a crucial component of creating a lasting impression 67% of recruiters claim as much, and because of their lack of voice quality, lack of smiles, or lack of confidence 39% of the The recruiter has a negative feeling about candidates . In general, our current system of traditional interviews is fairly The interviewer poses the question using a lot of bodily gestures, and based on the responses, the interviewee provides the response. Given his or her degree of knowledge and confidence, the candidate has a probability of being chosen. the significance of the interviewing process: Attending practice interviews is a crucial part of interview preparation. You might be wondering why practice interviews are necessary. Can't I get rid of them? Knowing how to handle a virtual interview will undoubtedly help you in your actual interview.

Here are some justifications for why practice interviews are crucial:

1. A psychological assessment: Through mock interviews, you can assess your personality. You'll be aware of your weaknesses and flaws on the inside and the outside. Using a practice interview will be aware of how to avoid being duped by personality quiz traps the interviewers' parameters.

2. Expert Advice: A panel performed mock interviews. expert group. They are subject matter specialists, thus by going you will receive advice from professionals on how to ace mock interviews. a successful performance in the interview. A program is instructed in in which the system functions as a domain expert. tailored to the criteria of the candidate. They offer a a thorough evaluation of the areas that testing can help you improve on a variety of topics, including your personality and subject content information, etc.

3. Setting Similar to the Real Interview - Mock interviews recreate the setting of the interview. As a result, A five-member panel will conduct mock interviews. interviews. The primary goal of this exercise is to familiarize you with the interview may help you feel more at ease during the real-life interview. Given that there are numerous candidates fail miserably in the final interview as a result of ignorance the interview, please. When fear takes hold, people fight to during the interview, perform. Taking part in practice interviews to prevent this.

4. Diversity is being questioned: - Trying to predict what the You might be questioned by a panelist during the real interview. However, getting ready for the task will be beneficial. A mock Thus, the interview equips you in preparation for any difficulty. You might have to speak with the interview panel.

5 Commentary: - The most important aspect of mock interviews is the that you get criticism. The panel members will provide feedback through a panel discussion following an interview session. You will learn more about the areas that need to get better.

Current virtual interview system: There are various online platforms available now for conducting interviews, however they simply take knowledge base into account. as the candidate's criterion for evaluation, for instance the system does exist, but as everyone is aware, the interview is not simply evaluating a candidate's knowledge, but it is also examining the behavioral abilities, character qualities, and character evaluation. The present interview system that uses AI is chosen based on the candidates' video submissions. As the The world is heading into the technological era. Regardless of the Considering the pandemic, 82% of recruiters are using the internet. interviews. But some contenders struggle with numerous issues. online interviews, such as smiling, nodding, and tilting the head and other social factors might be more difficult to discern. It is more challenging to recall such things when you can relate. while pressure is already exerting itself. The sole possibility is practice becomes perfect. This is being done to fix the issue research is a machine learning-based mock interview scorer. a flexible interview assessor. It accepts face input. expression to gauge the mood and gauge one's level of assurance, the The knowledge and speech frequencies will be used by the system. This the module is divided into three parts, with section I being the part in the introduction outlining the objectives of the interview evaluator, research area, and what kind of how our research will be applied, and which technologies are used the contenders.

II. MILESTONES

"An AI Mock-interview Platform for Interview Performance Analysis"[1] was the article published by Yi-Chi Chou, Felicia R Wongso, Chun-Yen Chao, Han-Yen Yu on 2022 at the 10th International Conference on Information and Education Technology (ICIET). the paper tries to convey us about the Mock-Interview Platform (MIP). it is a virtual hiring tool designed to assist recruiters in selecting potential candidates. It offers up-to-date interview questions and AI-assisted feedback. The platform integrates visual, audio, and textual features to analyze emotions, head pose, voice, DISC personality traits, and intrinsic traits. It also evaluates interview performance. The study found that the platform's prediction scores yielded satisfactory outcomes, demonstrating its potential in enhancing recruitment practices.

"AI-based Behavioural Analyser for Interviews/Viva"[2] Dulmini Yashodha Dissanayake, Venuri Amalya, Raveen Dissanayaka, Lahiru Lakshan, Pradeepa Samarasinghe, Madhuka Nadeeshani, Prasad Samarasinghe Was published on 2021 IEEE 16th International Conference on Industrial and Information Systems (ICIIS), 277-282, 2021 Virtual interviews have become the preferred recruitment method due to globalization and technology. However, understanding the interviewee's behavior remains a challenge. This research proposes a machine-based approach to detect and assess changes in interviewees' behavior and personality traits based on nonverbal cues. The system uses deep learning and machine learning models, achieving accuracies over 85% for smile, eye gaze, emotion, and head pose analysis. The Random Forest model has the highest accuracy rate of over 75%. The findings suggest that nonverbal behavioral cues can be used to determine personality traits, demonstrating the potential of earning in identifying personality traits.

the paper named " virtual simulation of technical interview" [3] was published on 2017 by V. Salvi, A. Varanwalla, N. Aute and A. Joshi at International Conference on Computing, Communication, Control and Automation (ICCUBEA), Pune, India. this paper tells about the interviews are crucial for individuals to pursue

their dreams and secure employment. Clearing an interview can lead to employment, removing individuals from unemployment or allowing them to switch positions or companies. Preparing for interviews is essential for gaining new opportunities and benefits. However, preparing for an interview is not a one-time event; it requires significant effort and dedication. Achieving a company or job is a dream, and preparing for it correctly is crucial. This paper presents a system to help individuals prepare for interviews effectively.

Yi-Chi Chou & Han-Yen Yu was the authors who publish an article named "Based on the application of AI technology in resume analysis and job recommendation"[4] on 2020 August from IEEE International Conference on Computational Electromagnetics (ICCEM). The study uses machine learning and text mining technology to analyze online discussion trends. It developed a system for job fairs, analyzing personal competitiveness and personality traits. The system recommends job vacancies based on applicants' electronic resumes and generates a talent recommendation list for companies. The results show that the system meets job applicants' expectations, demonstrating its potential for effective job fairs.

Through the paper named "Classification of emotions and evaluation of customer satisfaction from speech in real world acoustic environments"[5] Luis Felipe Parra-Gallego & Juan Rafael Orozco-Arroyave explores the use of features to recognize emotions and assess customer satisfaction in real acoustic scenarios in 26th August 2021. The classification of emotions is based on standard corpora, while customer satisfaction evaluation is based on real opinions from phone calls with call-center agents. The study uses two speaker models, x-vectors and i-vectors, and the Interspeech 2010 Paralinguistics Challenge (I2010PC) feature set. The DisVoice framework is also used to model emotions and customer satisfaction. The results show that the I2010PC feature set is the best approach for classifying emotions in standard databases. The articulation features are the best for recording recordings in call centers without acoustic control. The proposed approach is more suitable for real-world applications and potentially more convenient for industrial applications.

Aditi S. More, Samiksha S. Mobarkar, Siddhita S, Salunkhe, Reshma R. Chaudhari, are the authors of the project "Smart interview using AI"[6] at technical teacher organization of India, 2022. Technology has revolutionized many common things, elevating living standards, comfort, and safety. Smart homes, traffic management, offices, and surveillance are now accessible worldwide. As technology advances, more features like these are being developed. Interviews are now conducted online, considering not only marks but also personality traits. An interview system has been developed to analyze the personality traits of approved candidates. This project uses research papers and technology to combine ideas from various research papers to create a system that considers personality traits in hiring decisions.

"Developing an agent-based virtual interview training system for college students with high shyness level"[7] is the paper developed by Xinpei Jin, Yulong Bian, Wenxiu Geng, Yeqing Chen, Ke Chu, Hao Hu, Juan Liu, Yuliang Shi, Chenglei Yang in 2019. This paper presents a virtual interview training system designed to assist college students with high shyness levels in improving their interview skills and reducing anxiety. The system comprises three virtual agents with different personality types, three types of interview training content, and a multidimensional evaluation method. User studies show the system effectively helps shy students cope with interview anxiety and improve their interview training performance.

The article "Exploring the relationship between children's facial emotion processing characteristics and speech communication ability using deep learning on eye tracking and speech performance measures"[8] by Jingwen Yang, Zelin Chen, Guoxin Qiu, Xiangyu Li, Caixia Li, Kexin Yang, Zhuanggui Chen, Leyan Gao, Shuo Lu was published on 2022 November in computer speech and language. The study investigates the correlation between facial emotion recognition (FER) and speech communication disorders (SCD) in children. By monitoring eye movements of 115 children and designing a machine-learning-based SCD prediction model, the researchers found strong correlations between different dimensions of SCA and various eye-movement features. A group of FER gazing patterns was found to be highly sensitive to the possibility of children's SCD. The SCD prediction model reached an accuracy of 88.9%, offering a potential technique to fast screen SCD for children.

"Multi-modal emotion recognition using EEG and speech signals "[9] was the paper published by Qian Wang, Mou Wang, Yan Yang, Xiaolei Zhang on 2022 October from computers in biology and medicine. The Multi-modal Emotion Database with four modalities (MED4) is a multimodal emotion database designed to detect emotions in naturalistic Human-Machine Interactions (HMI). The database consists of synchronously recorded signals of participants' EEG, photoplethysmography, speech, and facial images influenced by video stimuli. The experiment was conducted with 32 participants in two environments: a research lab with natural noises and an anechoic chamber. Four baseline algorithms were developed to verify the database and the performance of AER

methods. Two fusion strategies were designed to utilize both external and internal information of human status. The results showed that EEG signals generated higher accuracy in emotion recognition than speech signals, with 88.92% in anechoic and 89.70% in natural noisy rooms. Fusion strategies that combined speech and EEG signals improved overall emotion recognition accuracy by 25.92% and 1.67%, respectively. The MED4 database will be made publicly available to encourage researchers worldwide to develop and validate advanced methods for AER

The paper titled "Recognizing Emotion from Speech Based on Age and Gender Using Hierarchical Models"[10] was published on 2019 at *procedia computer science* by Ftoon Abu Shaqra, Rehab Duwairi, Mahmoud Al-Ayyoub. The age and gender significantly impact the physiologic and acoustic features of human voice, which are used in speech emotion recognition applications. Studies have improved voice emotion recognition by identifying age and gender from speech topics. A study aimed to investigate the impact of age and gender on emotion recognition applications by building hierarchical classification models. Four models were compared and the relationship between age and gender was presented. The results showed that using a separated emotion model for each gender and age category resulted in higher accuracy compared to using one classifier for all data.

"The tech-talk balance: what technical interviewers expect from technical candidates"[11] is the article by Denae Ford, Titus Barik, Leslie Rand-Pickett, Chris Parnin which was published on 2017 through ACM 10th International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE). This paper tells that the software engineer job candidates often struggle in technical interviews due to a mismatch between their expectations and the criteria used in practice. A study conducted at a university found that candidates' expectations of interviewers' criteria, such as problem-solving walkthroughs, applying previous experience, and engaging in conversation beyond code, can vary significantly across different software companies. The findings suggest that candidates should be aware of these potential biases and tailor their expectations accordingly to improve their chances of success in technical interviews.

the paper "Speech emotion recognition using recurrent neural networks with directional self attention"[12] was by Dongdong Li, Jinlin Liu, Zhuo Yang, Linyu Sun, Zhe Wang. They published it on 1st July 2021 from *Expert Systems with Applications*. Speech Emotion Recognition (SER) is a crucial aspect of affective computing, involving the recognition of emotions in human-computer interactions. This paper proposes Bi-directional Long-Short Term Memory with Directional Self-Attention (BLSTM-DSA) to enhance the diversity of information in audios. BLSTM learns long-term dependencies from local features and improves the structure's robustness through directional analysis. Autocorrelation of speech frames is used to handle information gaps, introducing a Self-Attention mechanism into SER. The algorithm calculates the attention weight of each frame using the output of forward and backward LSTM, allowing the algorithm to automatically annotate the weights of speech frames to select frames with emotional information. The BLSTM-DSA shows satisfactory performance in speech emotion recognition, particularly in recognizing happiness and anger.

Julie E Sharp issues the paper entitled "Works in progress ss: using mock telephone interviews with alumni to teach job search communication"[13] in 2006 December at *Proceedings. Frontiers in Education. 36th Annual Conference*. A pilot project at Vanderbilt University aimed to prepare engineering students for job search communication, particularly interviewing techniques, and establish networking relationships with alumni. Over two semesters, 75 students and 33 alumni participated in mock telephone interviews. The project included an alumnus guest speaker, a training workshop on interview techniques, an interview chart assignment, and a memo summarizing the experience. Both groups rated the project highly, with students rating it 4.7 and alumni rating it 4.9. Students rated their knowledge of interviewing techniques before the project as 2.1/5.0 and afterward as 4.4/5.0.

III.CONCLUSION

Based on the papers that have been published and the research that have been conducted Mock mentor is a practice test for students to take before attending an interview in order to improve their interview performance. It is the candidate's self-evaluation. Candidates who wish to attend the interview should log on to the site, choose a category, and respond to the questions orally. The built database can store questions and responses. The responses provided by the user will be compared to the answers in the database using sentence matching technology. The Python face recognition library called Haar cascade frontal face algorithm detect emotions

of each question while interview and display along with the overall output. We employ a database to improve the program's accuracy. The database will be configured locally using mysql .

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