An AI-powered and machine learning (ML) based platform is used to automate the interview process. InterviewPro enables automation on the critical areas of interview by leveraging the cutting-edge NLP and DL technologies. The coming test runs have been a source of hopefulness, as there has been a clear improvement in efficiency, candidate experience, and interviewer workload. The project was executed over five months over a frame of time of Feb to May 2024. Dr Atul Mishra and Dr Nishtha Phutela were our advisors and supervisors. Their prompt advice and the discussions to keep up our faith became the key elements that we had for our project going on well. InterviewPro is a software platform based on the use of AI and ML technologies. The goal of InterviewPro is to enable quick and smooth, fully remote technical interviews. The software industry keeps revolutionizing at a high speed. InterviewPro is an online platform for tech recruiters. The platform has an inbuilt NLP (Natural Language Processing) and DL(Deep Learning) algorithms. It can offer swift coding assessments, speech-to-text conversion and insight extraction from answers. InterviewPro is a real-time speech-to-text conversion and analysis platform. The platform also uses standardized rubrics for in-depth candidate assessment, advanced features for cheating, and offers 24/7 availability. InterviewPro is designed to streamline the hiring process. The Karat platform offers an array of intelligent products and services, including 24/7 interviews, bubble-free environment, and reliable interviews with highly knowledgeable professionals. Karat's method emphasises human specialists joining with technology to intelligently place into the hiring process. Kariyer.net is the flagship online employment service in Turkey. The company applies AI-driven job matching which is essential in perfecting job seekers. This is made possible by the power of artificial intelligence in generating a logical and accurate solution. Automation is essential for any successful decision making process. The platform must work with agility and ease to be able to handle multiple tasks at a time. It must be available on different devices that candidates can access and use. Simplicity and dependability are two major factors that must be considered if one wishes to present a healthy environment for the users. The feasibility study assesses the technical, economic, and operational sides of the business. The usage of automated video interviews (AVIs) for weeding out job candidates is on the rise. There is a glaring absence of research that focus on the reliability, validity and generalization of the assessments made during this process. The use of AI technology for screening processes is one of the topics that the research is exploring. AI can be used to decode candidates non-verbals, which are considered the best indicators for attributes such as personality trait and state of mind during the interview. The ability of AI powered by deep learning to imitate human behaviour indicates that this AI would be much more effective in the assessment of interpersonal skills in the virtual interviews. Jia Xiang and Gengming Zhu relies on the utilization of Multi-task Cascaded Convolutional Networks (MTCNN) that performs concurrently in the task of joint face detection and facial expression recognition. Their approach main objective is to recognize facial micro-expressions as well as facial detection that allows non-verbal communication cues to be captured. Wani deals with the figure of Speech Emotion Recognition (SER) in human-computer interactions. Also, improved emotional models and robust classifiers are suggested in order to accommodate diverse datasets. The primary mission of InterviewPro is the implementation of AI and ML technologies. InterviewPro is a multi-dimensional application developed from a combination of powerful program languages. The main programming languages are Javascript, Python, and SQL, which constitute a well-structured backbone of the web application and the back-end part of the product React. It was picked up for its effectiveness and the fact that it operates around the virtual DOM element. Python has been favored by InterviewPro for the backend system. It is commonly preferred for its agile nature during startup. It can be very much time-saving and simplifies the development process. 4.2 Supporting Languages/Packages are available in English, French, German, Italian, Spanish and Portuguese. The language used is Flask, a micro-framework based on the Python programming language. Machine Learning is one of the principal features of Machine Learning approaches utilized within InterviewPro. Covers wide range of well-known algorithms like clustering, classification and regression among others. Also offers specific ml models which work better for clustering or regression features. Provides tools and libraries to develop and train advanced neural networks with ease. WebRTC allows interviewers and candidates to communicate as if they were sitting next to each other, often across the country or planet. Whisper API works with a number of computer languages. Code tests and challenges in the InterviewPro interface are done directly by Sphere Engine and it integrates the user interface so that the entire process is smooth and well-connected. Whisper API platform is capable of communicating with the audio files recorded from the interviews in the course of real time. The platform must be

functional beyond a single platform and across different types of devices, operating systems, and browsers platforms to reach all user groups. The security of the platform remains on the focus by utilizing the best practices in security, including the encryption of data, using secure authentication methods. The level of the skills possessed by experts is a vital point since these include programmers, machine learning experts, and cybersecurity experts. Adherence to international data protection regulation is a factor affecting the way user data is captured, maintained, and manipulated. The platform must be user friendly and accessible to enable the economically disadvantaged to use it. 4.4 Use Case: A Company would need to employ new staff members yet it has no time to go through the interviewing process. A company proposes adopting InterviewPro, an external service by he staff to find relevant and qualified candidates. The company obtains an in-depth report on the applican't by the interviewer. This empowers the platform and makes it a good tool to avoid being scammed. InterviewPro is a free online tool that allows people to conduct interviews for major companies. The tool is designed to make hiring decisions easier for companies. InterviewPro is available in English, French, Spanish and German. Each storyboard links the user's start point with the end point in InterviewPro exploration. Each storyboard highlights InterviewPro's integral role in changing the traditional interview practice. Data Flow Diagrams show the path on which data is exchanged and controlled within InterviewPro. Interviewers sign up to their accounts from where they move to the dashboard that forms the central hub of their daily operations. During the interview, both of the deep learning and natural language processing models are used in real-time. Once the interview is finished interviewer declare report that is accumulated from interviewers' feedback. The database for InterviewPro is meticulously structured to manage all aspects of the recruitment process efficiently. This section provides an in-depth look at the design of each table, focusing on the structure, purpose, and interactions between different tables. Table Interactions and Relationships: Ensure integrity and enforce logical connections among tables. ReportPath (VARCHAR(255)): Stores the path to the interview report, providing easy access to detailed feedback and outcomes. RubricID (INT, AUTO_INCREMENT, PRIMARY KEY): Unique identifier for each set of tables. Internet connections are important for supporting the real time aspects of the platform, such as video interviewing and live coding sessions. Third-party services, e.g., Whisper, for text-to-speech and WebRTC for real-time communications are also important. The platform must be able to scale operations up and down depending on needs but also means that any cloud-service disruption could affect the platform's availability. For instance, they must observe different data protection and privacy rules. The Whisper API not only abstracts the audio from the interviews, but also provides the text output which directly powers the NLP pipeline. System uses computer vision techniques using OpenCV and facial landmark using Dlib to monitor and analyze eye movements in real-time. Combines the use of convolutional neural networks (CNN) and shallow recurrent neural networks (RNN) for the time series analysis of video frames where lip movements are captured. The analysis covers the outcomes from the perspective of both the interviewers andlican'ts. It explores how the platform improves the process as well as the user experience. The results of the project and the benefits of using the working platform are presented. The platform is continually monitored for improvement to the algorithms and their performance. The system's overall accuracy was set at a strong 94%, which means the system is reliable and gives recruiters the right information about the candidate's skills. The recall rate of 89% shows the system's ability to recognize almost all the actual suitable candidates from a dataset. The harmonization of precision and recall is symbolized by the F1 Score of 0 905. InterviewPro system is designed to meet the value and scalability goals of targeted customers. It has ability to connect the users with their required positions based on the level of experience. Interviewers can evaluate the candidate skills in the important areas such as HTML/CSS, JavaScript, and React. The comprehensive findings shown above prove that the InterviewPro platform is a valid and efficient tool for the automation of the technical recruitment process. The platforms accuracy, user satisfaction, real-time capabilities, powerful and intuitive interface, all come together to make it a game-changer in the recruitment industry. InterviewPro is a mobile interview screener that can be used by candidates and interviewers. It can provide real-time insights about the candidates' abilities and capabilities in real time. InterviewPro is designed to be a vital device in the every-day-routine of modern IT companies. These innovations and expansion will guarantee that InterviewPro remains leading in the development of the recruitment technology and continues to respond for the shift in the tech industry requirements. It will be a superior standard in terms of the efficiency and trustworthiness of the hiring.