Claims

1. A method for managing patients' health, the method comprising:

receiving, by a user interface, a query by a user;

orchestrating, by an AI agent manager, a multi-stage workflow in response to the query, wherein the AI agent manager divides tasks into sub-tasks and delegates them to a plurality of AI agents, the multi-stage workflow comprising:

identifying, by a screening AI agent, a patient having a high-risk profile for at least one medical condition based on a corresponding Electronic Health Record (EHR) maintained in a database;

notifying, by a scheduling AI agent, the patient having the high-risk profile;

facilitating, by the scheduling AI agent, an onboarding of the patient in response to notifying, wherein the onboarding results in scheduling a health checkup;

receiving, by a processor, multimedia data associated with the patient via one or more external devices upon completion of the health checkup;

processing, by a medical imaging screening AI agent, the multimedia data to extract an image corresponding to one or more Regions of Interest (ROIs) associated with the at least one medical condition of the patient from the multimedia data;

analysing, by the medical imaging screening AI agent, the image corresponding to the one or more ROIs to generate a summarized report including details associated with the at least one medical condition; and

displaying, by the processor via a Graphical User Interface (GUI), the summarized report to at least one of the patient and a healthcare professional.

2. The method of claim 1, wherein the EHR comprises medical information of the patient, and wherein the medical information includes personal details, medical history, medical history of one or more family members, lab and test results, medications, treatment plans, and health and lifestyle information.

3. The method of claim 1, wherein identifying the patient having the high-risk profile comprises:

retrieving, by the processor, the EHR corresponding to a plurality of patients maintained in the database, wherein the EHR is retrieved based on a plurality of parameters corresponding to the query by the user;

analysing, by the screening AI agent, the EHR to identify one or more medical conditions associated with each of the plurality of patients;

generating, by the screening AI agent, a risk report for each of the plurality of patients based on the identification of the one or more medical conditions, wherein the risk report comprises information about the one or more medical conditions of each of the plurality of patients; and

determining, by the screening AI agent, a risk profile for each of the plurality of patients based on the risk report, wherein the risk profile is one of the high-risk profile, a medium-risk profile, and a low-risk profile.

4. The method of claim 1, wherein notifying the patient comprises:

determining, by the scheduling AI agent, a set of notification parameters corresponding to the patient based on the query by the user, wherein the set of notification parameters comprises at least one communication channel, a timeslot, and a selected risk profile; and

sending, by the processor, a notification to a user device of the patient based on the set of notification parameters.

5. The method of claim 1, wherein facilitating the onboarding of the patient comprises:

sending, by the scheduling AI agent, a set of questionaries to the patient, wherein the set of questionaries comprises one or more heath-specific queries and one or more appointment-specific queries;

receiving, by the scheduling AI agent, a response corresponding to each of the set of questionaries from the patient; and

scheduling, by the scheduling AI agent, an appointment of the patient in response to receiving the response.

6. The method of claim 1, wherein the screening AI agent is configured to generate the risk report for the patient based on a plurality of patterns learned from a training dataset, and wherein the training dataset comprises historical diagnostic reports associated with a plurality of patients.

7. The method of claim 1, further comprising:

storing, by the processor, the summarized report associated with the patient in the database for future analysis of the at least one medical condition of the patient.

8. The method of claim 1, wherein the multimedia data comprises a plurality of digital images captured using the one or more external systems, and wherein the plurality of digital images comprises Computed Tomography (CT) scans, X-Rays, Magnetic Resonance Imaging (MRI), and Positron Emission Tomography (PET).

9. The method of claim 1, wherein the summarized report is used by the healthcare professional to perform a set of actions, wherein the set of actions comprises tracking a progress of the patient on the at least one medical condition, and determining a next course of treatment for the patient based on a current state of the at least one medical condition.

10. A system for managing patients' health, the system comprising:

a memory; and

a processor coupled to the memory, configured to:

receive, by a user interface, a query by a user;

orchestrate, via an AI agent manager, a multi-stage workflow in response to the query, wherein the AI agent manager divides tasks into sub-tasks and delegates them to a plurality AI agents, the workflow comprising:

identifying, by a screening AI agent, a patient having a high-risk profile for at least one medical condition based on a corresponding Electronic Health Record (EHR) maintained in a database;

notifying, by a scheduling AI agent, the patient having the high-risk profile;

facilitating, by the scheduling AI agent, an onboarding of the patient, wherein the onboarding results in scheduling a health checkup;

receiving multimedia data associated with the patient via one or more external devices upon completion of the health checkup;

processing, by a medical imaging screening AI agent, the multimedia data to extract an image corresponding to one or more Regions of Interest (ROIs) associated with the at least one medical condition of the patient from the multimedia data;

analyse, by the medical imaging screening AI agent, the image corresponding to the one or more ROIs to generate a summarized report including details associated with the at least one medical condition; and

display, via a Graphical User Interface (GUI), the summarized report to at least one of the patient and a healthcare professional.

11. The system of claim 10, wherein the EHR comprises medical information of the patient, and wherein the medical information includes personal details, medical history, medical history of one or more family members, lab and test results, medications, treatment plans, and health and lifestyle information.

12. The system of claim 10, wherein, to identify the patient having the high-risk profile, the processor is configured to:

retrieve the EHR corresponding to a plurality of patients maintained in the database, wherein the EHR is retrieved based on a plurality of parameters corresponding to the query by the user;

analyse, by the screening AI agent, the EHR to identify one or more medical conditions associated with each of the plurality of patients;

generate, by the screening AI agent, a risk report for each of the plurality of patients based on the identification of the one or more medical conditions, wherein the risk report comprises information about the one or more medical conditions of each of the plurality of patients; and

determine, by the screening AI agent, a risk profile for each of the plurality of patients based on the risk report, wherein the risk profile is one of the high-risk profile, a medium-risk profile, and a low-risk profile.

13. The system of claim 10, wherein, to notify the patient, the processor is configured to:

determine, by the scheduling AI agent, a set of notification parameters corresponding to the patient, wherein the set of notification parameters comprises at least one communication channel, a timeslot, and a selected risk profile; and

send a notification to a user device of the patient based on the set of notification parameters.

14. The system of claim 10, wherein, to facilitate the onboarding of the patient, the

processor is configured to:

send, by the scheduling AI agent, a set of questionaries to the patient, wherein the set of questionaries comprises one or more heath-specific queries and one or more appointment-specific queries;

receive, by the scheduling AI agent, a response corresponding to each of the set of questionaries from the patient; and

schedule, by the scheduling AI agent, an appointment of the patient in response to receiving the response.

15. The system of claim 10, wherein the screening AI agent is configured to generate the risk report for the patient based on a plurality of patterns learned from a training dataset, and wherein the training dataset comprises historical diagnostic reports associated with a plurality of patients.

16. The system of claim 10, wherein the processor is further configured to:
store the summarized report associated with the patient in the database for future analysis of the at least one medical condition of the patient.

17. The system of claim 10, wherein the multimedia data comprises a plurality of digital images captured using the one or more external systems, and wherein the plurality of digital images comprises Computed Tomography (CT) scans, X-Rays, Magnetic Resonance Imaging (MRI), and Positron Emission Tomography (PET).

18. The system of claim 10, wherein the summarized report is used by the healthcare professional to perform a set of actions, wherein the set of actions comprises tracking a progress of the patient on the at least one medical condition, and determining a next course of treatment for the patient based on a current state of the at least one medical condition.

19. A computer program product comprising a non-transitory computer-readable medium comprising instructions that, when executed by one or more processors, cause the one or more processors to perform a method of managing patients' health using Artificial Intelligence (AI), the method comprising:

receiving, by a user interface, a query by a user;

orchestrating, by an AI agent manager, a multi-stage workflow in response to the query, wherein the AI agent manager divides tasks into sub-tasks and delegates them to a plurality of AI agents, the multi-stage workflow comprising:

identifying, by a screening AI agent, a patient having a high-risk profile for at least one medical condition based on a corresponding Electronic Health Record (EHR) maintained in a database;

notifying, by a scheduling AI agent, the patient having the high-risk profile;

facilitating, by the scheduling AI agent, an onboarding of the patient in response to notifying, wherein the onboarding results in a completion of a health checkup;

receiving multimedia data associated with the patient via one or more external devices upon completion of the health checkup;

processing, by a medical imaging screening AI agent, the multimedia data to extract an image corresponding to one or more Regions of Interest (ROIs) associated with the at least one medical condition of the patient from the multimedia data;

analysing, by the medical imaging screening AI agent, the image corresponding to the one or more ROIs to generate a summarized report including details associated with the at least one medical condition; and

displaying, via a Graphical User Interface (GUI), the summarized report to at least one of the patient and a healthcare professional.