medication regimen, and when the symptom characteristic group doesn't cover the N necessary symptom characteristics, the solution case comprises the symptom characteristic group, the several characteristic trajectories selected, and the medication regimen.

[09] Another aspect of the present application provides a computer-readable storage medium, which stores computer programs that upon, wherein, the computer programs are executed by a processor, the following steps are implemented: receiving a symptom characteristic group input by a user, wherein the symptom characteristic group comprises several symptom characteristics; determining whether the symptom characteristic group covers N necessary symptom characteristics; when the symptom characteristic group covers the N necessary symptom characteristics, inputting the symptom characteristic group into a pre-established decision tree model; when the symptom characteristic group doesn't cover the N necessary symptom characteristics, selecting several characteristic trajectories from a pre-fitted characteristic trajectory group, wherein a similarity of the several characteristic trajectories with the symptom characteristic group meets a similarity rule, and inputting the several characteristic trajectories selected into the decision tree model, wherein, the characteristic trajectories comprise the N necessary symptom characteristics, and N is an integer greater than or equal to 1; selecting a medication regimen output by the decision tree model, and recommending the medication regimen to the user; obtaining a score of the user on the medication regimen, and adding a solution case to the medical database, wherein the score of the solution case reaches a score threshold; wherein, when the symptom characteristic group covers the N necessary symptom characteristics, the solution case comprises the symptom characteristic group and the medication regimen, and when the symptom characteristic group doesn't cover the N necessary symptom characteristics, the solution case comprises the symptom characteristic group, the several characteristic trajectories selected, and the medication regimen.

[10] The method of constructing a medical database provided by the present application outputs a medication regimen through a pre-established decision tree model, when a symptom characteristic group input by the user covers N necessary symptom characteristics that must be input to the decision tree model, inputs the symptom characteristic group into the decision tree model directly, when the symptom characteristic group does not cover the N necessary symptom characteristics that must be input to the decision tree model, selects several

characteristic trajectories whose similarity with the symptom characteristic group meets a similarity rule to input to the decision tree model and selects one medication regimen output by the decision tree model, and recommends the medication regimen to the user, when a user's score for the medication regimen reaches a score threshold, it indicates that the accuracy of the medication regimen is high, based on this, a solution case can be formed and added to the medical database to improve the accuracy of medical database. Through the method of constructing the medical database provided by the present application, a relatively accurate medical database can be constructed, the medical database is stored, organized, managed and used in the form of a collection of professional knowledge in a computer memory according to the requirement for solving problems in the professional field, and compared with the prior art medication recommendations are determined by traversing a knowledge graph, the present application outputs medication recommendations quickly by using a decision tree, which improves the processing speed of the computer processor.

BRIEF DESCRIPTION OF THE DRAWINGS

[11] By reading the detailed description of the preferred embodiments below, various other advantages and benefits will become clear to those ordinary skilled in the art. The drawings are only used for the purpose of illustrating the preferred embodiments, and are not considered as a limitation to the present application. Also, throughout the drawings, the same reference symbols are used to denote the same components. In the drawings:

[12] FIG. 1 schematically shows a flowchart of a method of constructing a medical database according to an embodiment of the present application;

[13] FIG. 2 schematically shows a block diagram of a device of constructing a medical database according to an embodiment of the present application;

[14] FIG. 3 schematically shows a block diagram of a computing device suitable for implementing a method of constructing a medical database according to an embodiment of the present application.

DETAILED DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

[15] In order to make the objectives, technical solutions, and advantages of the present

application clearer, the following further describes the present application in detail with reference to the accompanying drawings and embodiments. It should be understood that the specific embodiments described here are only used to explain the present application, and not used to limit the application. Based on the embodiments in the present application, all other embodiments obtained by those ordinary skilled in the art without creative work shall fall within the protection scope of the present application.

[16] It should be noted that in this article, the terms “including”, “comprising” or any other variants thereof are intended to cover non-exclusive inclusion, so that a process, method, article or device including a series of elements not only includes those elements, also includes other elements not explicitly listed, or elements inherent to the process, method, article, or device. If there are no more restrictions, the element defined by the sentence “including a...” does not exclude the existence of other same elements in the process, method, article or device that includes the element.

[17] The method of constructing a medical database provided by the present application, outputs a medication regimen through a pre-established decision tree model, when a symptom characteristic group input by the user covers N necessary symptom characteristics that must be input to the decision tree model, inputs the symptom characteristic group into the decision tree model, directly, when the symptom characteristic group does not cover the N necessary symptom characteristics that must be input to the decision tree model, selects several characteristic trajectories whose similarity with the symptom characteristic group meets a similarity rule to input to the decision tree model and selects one medication regimen output by the decision tree model, and recommends the medication regimen to the user, when a user’s score for the medication regimen reaches a score threshold, it indicates that the accuracy of the medication regimen is high, based on this, a solution case can be formed and added to the medical database to improve the accuracy of medical database. Through the method of constructing the medical database provided by the present application, a relatively accurate medical database can be constructed, the medical database is stored, organized, managed and used in the form of a collection of professional knowledge in a computer memory according to the requirement for solving problems in the professional field, and compared with the prior art medication recommendations are determined by traversing a knowledge graph, the present application

model.

[27] Wherein, the historical check items and the historical check values are used as inputs, the historical medication regimens are used as outputs, and the inputs and the outputs as the historical solution cases are used as a training sample to train the decision tree to obtain the decision tree model. The historical check item is, for example, blood sugar, and the historical check value is, for example, the value of the blood sugar. In addition, the inputs also include: basic information, disease history, and medication history of the historical user, and the basic information is, for example, age, gender, height, weight and so on.

[28] In order to ensure the accuracy of the output of decision tree model, after the decision tree model is constructed, the decision tree model can be revised. Specifically, the method further includes:

[29] revising the decision tree model according to a preset rule;

[30] wherein, the revising the decision tree model according to a preset rule, comprises:

[31] when a first path between a root node and a leaf node of the decision tree model is inconsistent with the preset rule, setting a probability of the first path to be zero;

[32] when a second path between the root node and the leaf node of the decision tree model is consistent with the preset rule, retaining a probability of the second path;

[33] when a third path between the root node and the leaf node of the decision tree model does not exist in the preset rule, retaining a probability of the third path.

[34] In the embodiment, the preset rule can be obtained by combing out medical books or authoritative expert opinions, taking medical books as an example, the combing method is illustrated. For example, the method also includes:

[35] extracting related feature variables, operators, thresholds and medical conclusions in medical books;

[36] constructing the preset rule by using the feature variables, the operators, and the thresholds as input conditions, and using the medical conclusions as output results.

[37] Wherein, the feature variables are specific features, such as age and blood sugar, the operators are “<”, “=” and so on, and the thresholds are the values corresponding to the feature variables, such as 35 years old and 7.2 16mmol/L. The medical conclusions are the medication regimens recommended in medical books. For example, a certain preset rule is:

[55] when it is determined that the intersection of the several medication regimens does not exist, selecting one medication regimen from the several medication regimens to recommend to the user.

[56] The medication regimen can be randomly selected recommend to the user, or can be selected by the following rules. For example, the selecting one medication regimen from the several medication regimens to recommend to the user, includes:

[57] selecting the medication regimen with a minimum probability from the several medication regimens to recommend to the user; or

[58] selecting the medication regimen corresponding to one of the characteristic trajectories with a maximum similarity from the several medication regimens to recommend to the user; or

[59] selecting the medication regimen with a minimum product of probability and similarity from the several medication regimens to recommend to the user.

[60] A selected regimen is: for several medication regimens output by the decision tree model, determining the probability of each medication regimen, and recommending the medication regimen with the minimum probability to the user, wherein the smaller the probability is, the more accurate the medication regimen is.

[61] Another selected regimen is: for several medication regimens output by the decision tree model, determining the characteristic trajectory with the maximum similarity to the symptom characteristic group, and recommending the medication regimen corresponding to the characteristic trajectory with the maximum similarity to the user, for example, recommending the medication regimen corresponding to the characteristic trajectory with the minimum Euclidean distance to the user, wherein the smaller the Euclidean distance is, the greater the similarity is.

[62] Another selected regimen is: for several medication regimens output by the decision tree model, calculating the product of the probability and similarity corresponding to each medication regimen, and recommending the medication regimen with the minimum product to the user, for example, recommending the medication regimen with the minimum product of the probability and the Euclidean distance to the user.

medical books; a constructing module, constructing the preset rule by using the feature variables, the operators, and the thresholds as input conditions, and using the medical conclusions as an output result.

[81] FIG. 3 schematically shows a block diagram of a computing device suitable for implementing a method of constructing a medical database according to an embodiment of the present application. In this embodiment, the computing device 300 can be a smart phone, a tablet computer, a notebook computer, a desktop computer, a rack server, a blade server, a tower server, or a cabinet server (including independent servers, or a server cluster composed of multiple servers) that executes the programs, and so on. As shown in FIG. 3, the computing device 300 of the embodiment at least includes but not limited to: a memory 301, a processor 302, and a network interface 303 that can be communicably connected to each other through a system bus. It should be pointed out that FIG. 3 only shows the computing device 300 with components 301-303, but it should be understood that it is not required to implement all illustrated components, and more or fewer components may be implemented instead.

[82] In the embodiment, the memory 301 includes at least one type of computer-readable storage medium, the readable storage medium includes a flash memory, a hard disk, a multimedia card, a card-type memory (such as, SD or DX memory, and so on), a random access memory (RAM), a static random access memory (SRAM), a read only memory (ROM), electrically erasable programmable read only memory (EEPROM), programmable read only memory (PROM), a magnetic memory, a magnetic disk, an optical disk, and so on. In some embodiments, the memory 301 can be an internal storage unit of the computing device 300, such as a hard disk or memory of the computing device 300. In other embodiments, the memory 301 can also be an external storage device of the computing device 300, such as a plug-in hard disk, a smart memory card (SMC), and a secure digital (SD) card, a flash card, and so on. Of course, the memory 301 can also include both the internal storage unit of the computing device 300 and its external storage device. In the embodiment, the memory 301 is generally used to store the operating system and all kinds of application software installed in the computing device 300, for example, program codes of the method of constructing a medical database. In addition, the memory 301 can also be used to temporarily store various types of data that have been output or will be output.