CLAIMS

1. A patient survivability prediction system comprising:

a first input to receive a first set of parameters relating to heart rate variability data of a patient;

a second input to receive a second set of parameters relating to vital sign data of the patient;

a memory module to store the first set of parameters and the second set of parameters;

at least one processor coupled to the memory module and configured to analyze the first set of parameters and the second set of parameters and output a prediction on the survivability of the patient over the next 72 hours based on the first set of parameters and the second set of parameters; and

a display coupled to the at least one processor to display the prediction on the survivability of the patient over the next 72 hours.

2. The patient survivability prediction system of claim 1, wherein the patient survivability system further includes a third input to receive a third set of parameters including at least one of demographic information of the patient and medical history information of the patient, wherein the at least one processor is further configured to analyze the first set of parameters, the second set of parameters, and the third set of parameters, and output the prediction on the survivability of the patient over the next 72 hours based on the first set of parameters, the second set of parameters, and the third set of parameters.

3. The patient survivability prediction system of claim 1, wherein the patient survivability system further includes a third input to receive a third set of parameters including demographic information of the patient and medical history information of the patient, wherein the at least one processor is further configured to analyze the first set of parameters, the second set of parameters, and the third set of parameters, and output the prediction on the survivability of the patient over the next 72 hours based on the first set of parameters, the second set of parameters, and the third set of parameters.

4. The patient survivability prediction system of claim 3, wherein the demographic information includes at least one of an age and a gender of the patient.

5. The patient survivability prediction system of claim 4, wherein the vital sign data includes at least one of a blood oxygen saturation level of the patient, a temperature of the patient, a respiration rate of the patient, a pulse rate of the patient, a systolic blood pressure of the patient, a diastolic blood pressure of the patient, a Glasgow Coma Scale score of the patient, and a pain score of the patient.

6. The patient survivability prediction system of claim 5, wherein the heart rate variability data includes at least one of time domain data, frequency domain data, and geometric domain data.

7. The patient survivability prediction system of claim 1, wherein the vital sign data includes at least one of a blood oxygen saturation level of the patient, a temperature of the patient, a respiration rate of the patient, a pulse rate of the patient, a systolic blood pressure of the patient, a diastolic blood pressure of the patient, a Glasgow Coma Scale score of the patient, and a pain score of the patient.

8. The patient survivability prediction system of claim 1, wherein the heart rate variability data includes at least one of time domain data, frequency domain data, and geometric domain data.

9. The patient survivability prediction system of claim 1, wherein the heart rate variability data includes time domain data, frequency domain data, and geometric domain data.

10. The patient survivability prediction system of claim 1, wherein the patient survivability prediction system is constructed and arranged to be carried by the patient in a wearable configuration.

11. The patient survivability prediction system of claim 1, wherein the prediction on the survivability of the patient over the next 72 hours is either death or survival of the patient.

12. A patient survivability prediction system comprising:

a signal acquisition module having a first input to receive electro-cardiogram (ECG) signals from a patient and a second input to receive at least one physiological signal from the patient other than the ECG signals;

a signal processing module, coupled to the signal acquisition module, to receive the ECG signals and determine heart rate variability data of the patient based on the ECG signals;

a vital sign module, coupled to signal acquisition module, to receive the at least one physiological signal and determine vital sign data of the patient based on the at least one physiological signal; and

an analysis module coupled to the signal processing module and the vital sign module configured to analyze the heart rate variability data and the vital signal data and output a prediction on the survivability of the patient over the next 72 hours based on the heart rate variability data and the vital sign data.

13. The patient survivability prediction system of claim 12, further comprising a patient information module, coupled to the analysis module, to receive at least one of demographic information of the patient and medical history information of the patient, wherein the analysis module is further configure to analyze the heart rate variability data, the vital signal data and the at least one of the demographic information and the medical history information and output the prediction on the survivability of the patient over the next 72 hours based on the heart rate variability data, the vital sign data, and the at least one of the demographic information and the medical history information.

14. The patient survivability prediction system of claim 13, wherein the at least one of the demographic information and the medical history information includes both the demographic information and the medical history information, and wherein the demographic information includes at least one of an age, a gender, and an ethnicity of the patient, and the medical history information includes at least one of a Glascow Coma Scale score, a history of any medical

conditions including diabetes, high blood pressure, and myocardial infarction, and any specific medications the patient is using.

15. The patient survivability prediction system of claim 13, wherein the signal processing module and the analysis module are implemented in a digital signal processor, and wherein the patient information module is implemented in a general purpose processor.

16. The patient survivability prediction system of claim 12, further comprising at least one of a temperature sensor, a respiration rate sensor, a pulse rate sensor, a blood pressure sensor, and a blood oxygen saturation sensor to provide the at least one physiological signal to the signal acquisition module.

17. The patient survivability prediction system of claim 12, wherein the heart rate variability data includes at least one of time domain data, frequency domain data, and geometric domain data.

18. The patient survivability prediction system of claim 12, wherein the vital sign data includes at least one of a blood oxygen saturation level of the patient, a temperature of the patient, a respiration rate of the patient, a pulse rate of the patient, a systolic blood pressure of the patient, a diastolic blood pressure of the patient, a Glasgow Coma Scale score of the patient, and a pain score of the patient.

19. The patient survivability prediction system of claim 12, wherein the heart rate variability data includes time domain data, frequency domain data, and geometric domain data.

20. The patient survivability prediction system of claim 12, wherein the patient survivability prediction system is constructed and arranged to be carried by the patient in a wearable configuration.