CLAIMS

1. A system for managing an agricultural resource comprising

an input module arranged to receive inputs from a plurality of input sources;

a central processor arranged in data communication with the input module to generate at least one long term forecast; the central processor further configured to receive inputs from selected input sources at a predetermined time to adjust a parameter of the at least one long term forecast to derive a short term forecast; and

an output module arranged in data communication with the central processor to receive the long term forecast and/or the short term forecast for decision control; the output module arranged in data communication with at least one output device, wherein the inputs comprise at least one structured input and at least one unstructured input, and wherein the at least one structured input and the at least one unstructured input are fused, and wherein the fused at least one structured input and at least one unstructured input are classified into a plurality of types.

2. The system according to claim 1, wherein the at least one structured input and at least one unstructured input are fused at a feature level or a decision level to form a pre-processed input.

3. The system according to claim 1, wherein the plurality of input sources comprise at least two of the following: weather sensor, soil moisture sensor, soil pH sensor, water sensor, soft sensor, terrain map, images of environment, data associated with at least one social network.

4. The system according to claim 1, wherein the parameter to be adjusted comprises at least one of the following: fertilizer application, irrigation plan, and crop protection methodology.

5. The system according to claim 1, wherein the long term forecast comprises at least one of the following decision parameters: seed type selection, fertilizer application, irrigation plan, crop protection.

6. The system according to claim 1, wherein the output module comprises an omni-channel interface comprising a plurality of output channels.

7. The system according to claim 6, wherein the plurality of output channels comprises two or more of the following:- short message system (SMS) message, electronic mail, web or desktop app, mobile application, application programming interface, geographical information system, chatbot.

8. The system according to claim 1, wherein the central processor comprises a descriptive module, a predictive module and a prescriptive module.

9. The system according to claim 8, wherein the descriptive module comprises at least one of the following sub module:- a visualization module, an alert module, and a reports module.

10. The system according to claim 9, wherein the long term forecast or the short term forecast is generated using at least one of the following: a basic rule simulator, a classification and regression tree, and a deep learning algorithm.

11. The system according to claim 8, wherein prediction by the predictive module comprises one or more of the following:- soil data interpolation, hyper local weather forecast, yield estimation, pest and disease forecast.

12. The system according to claim 1, wherein the input module comprises a mobile computing device arranged to send at least one structured input or at least one unstructured input to the central processor, the mobile computing device further arranged in data communication with the at least one output device.

13. The system according to claim 1, wherein the inputs are selectively labelled for classification using an adaptive sampling methodology, the adaptive sampling methodology comprises an estimation of one or more of the following: a function, a concept, an incident.

14. A method for managing an agricultural resource comprising the steps of:
    a. generating at least one long term forecast;

b. collecting at least one structured data and at least one unstructured data;

c. receiving and fusing the at least one structured and the at least one unstructured data;

d. pre-processing the fused at least one structured and the at least one unstructured data by a central processor, the pre-processing step further comprises classifying and labelling the at least one structured and the at least one unstructured data; and

e. adjusting the at least one long term forecast to derive a short term forecast based on the collected data at every predetermined interval.

15. A non-transitory computer readable medium containing executable software instructions thereon wherein when executed on a mobile device and/or a computer device performs the method for agricultural management comprising the steps of:

a. generating at least one long term forecast;

b. collecting at least one structured data and at least one unstructured data;

c. receiving and fusing the at least one structured and the at least one unstructured data;

d. pre-processing the fused at least one structured and at least one unstructured data by a central processor, the pre-processing step further comprises classifying and labelling the at least one structured and the at least one unstructured data; and

e. adjusting the at least one long term forecast to derive a short term forecast based on the collected data at every predetermined interval.