WHAT IS CLAIMED IS:

1. An operation method of a context hub which receives and processes context data from a plurality of sensors, the method comprising:

identifying a pattern of context data input to the context hub from at least one of the plurality of sensors as an identified pattern of context data;

determining a dynamic voltage-frequency scaling level corresponding to the identified pattern of context data as a determined dynamic voltage-frequency scaling level;

determining if a main processor should be triggered from a sleep mode to an active mode based on the determined dynamic voltage-frequency scaling level; and

based on the determination,

processing, at the context hub, the context data by using a clock signal or a driving voltage corresponding to the determined dynamic voltage-frequency scaling level, or

triggering the main processor from the sleep mode to the active mode, and transferring the context data from the context hub to the main processor for the main processor to process.

2. The method of claim 1, wherein the pattern of context data includes at least one of a type, a combination, and a data size of the context data.

3. The method of claim 1 or claim 2, wherein, in the determining of the dynamic voltage-frequency scaling level, the dynamic voltage-frequency scaling level corresponding to the identified pattern of context data is read from a context input pattern information block.

4. The method of claim 3, wherein context input pattern information stored in the context input pattern information block is updated to a training value obtained by machine learning from a default value input in advance.

5. The method of any one of claims 1 to 4, further comprising:

performing, at a neural processing unit (NPU), machine learning on the identified pattern of context data to optimize the dynamic voltage-frequency scaling level.

6. The method of claim 5, further comprising:

updating the dynamic voltage-frequency scaling level corresponding to the identified pattern of context data depending on an execution result of the machine learning.

7. A mobile device, comprising:

a plurality of sensors;

a context hub configured to receive and process context inputs provided from the plurality of sensors;

a main processor;

a dynamic voltage-frequency scaling (DVFS) block configured to control a frequency of a clock signal to be provided to the context hub or a level of a driving voltage to be provided to the context hub under control of the context hub; and

a context input pattern information block configured to provide a DVFS level corresponding to a pattern of the context inputs,

wherein the context hub determines the DVFS level corresponding to the context inputs with reference to the context input pattern information block,

wherein the context hub determines if the main processor should be triggered from a sleep mode to an active mode based on the determined DVFS level,

wherein based on the determination,

the context hub is configured to process the context data by using a clock signal or a driving voltage corresponding to the determined DVFS level, or

the context hub is configured to trigger the main processor from the sleep mode to the active mode, and to transfer the context data from the context hub to the main processor for the main processor to process.

8. The mobile device of claim 7, wherein the context hub triggers the main processor to wake up from the sleep mode to the active mode with reference to the DVFS level.

9. The mobile device of claim 7 or claim 8, wherein the context hub and the main processor are implemented on the same system-on-chip.

10. The mobile device of claim 7 or claim 8, wherein the context hub is included in a chip which is separated from the main processor.

11. The mobile device of any one of claims 7 to 10, further comprising:

a neural processing unit (NPU) configured to learn the DVFS level corresponding to the pattern of the context inputs through machine learning.

12. The mobile device of claim 11, wherein the neural processing unit (NPU) is activated when the main processor operates in the active mode.

13. The mobile device of claim 11 or claim 12, wherein the neural processing unit (NPU) updates the context input pattern information block with a training parameter obtained through the machine learning when the machine learning is completed.

14. The mobile device of any one of claims 7 to 13, wherein the pattern of the context inputs is identified according to at least one of a type of each of the context inputs, a combination of the context inputs, and data sizes of the context inputs.

15. An operation method of a context hub which processes data that a plurality of sensors mounted on a mobile device provide, the method comprising:

identifying a context input pattern of context data input to the context hub from at least one of the plurality of sensors as an identified context input pattern;

determining a dynamic voltage-frequency scaling level corresponding to the identified context input pattern as a determined dynamic voltage-frequency scaling level;

determining if a main processor should be triggered from a sleep mode to an active mode based on the determined dynamic voltage-frequency scaling level; and

based on the determination,

processing the context data depending on the dynamic voltage-frequency scaling level and learning the dynamic voltage-frequency scaling level corresponding to the context input pattern depending on machine learning, or

triggering the main processor from the sleep mode to the active mode, and transferring the context data input from the context hub to the main processor for the main processor to process.

16. The method of claim 15, wherein the context input pattern includes at least one of a type, a combination, and a data size of the context data.

17. The method of claim 15 or claim 16, further comprising:

reading the dynamic voltage-frequency scaling level corresponding to the identified context input pattern from a context input pattern information block.

18. The method of claim 17, wherein the context input pattern information block provides the context hub with initial data not learned by the machine learning before the machine learning is completed, and provides the context hub with optimum training data obtained by the machine learning after the machine learning is completed.

19. The method of claim 18, further comprising:

determining whether to update the context input pattern information block with the optimum training data with reference to a score included in the optimum training data.

20. The method of any one of claims 15 to 19, wherein the mobile device includes a neural processing unit (NPU) configured to perform the learning according to the machine learning.