

CLAIMS

1. Method for pattern recognition in a plurality of time signals of different types, the method comprises:

/a/ receiving the plurality of time signals;

5 /b/ for each received signal of the plurality of signals, creating an asynchronous time signal comprising events, said events being of the same forms of the asynchronous signal representative of a characteristic of the received signal;

10 /c/ for each created asynchronous signal, creating an activity profile of said asynchronous signal, the activity profile comprises at least one activity value that decreases as a function of the time elapsed since an event that is the most recent among the successive events of said asynchronous signal;

/d/ for a given time:

15 /d1/ determining a context, said context being defined as the set of activity profiles, at the given time, of the created asynchronous signals,

20 /d2/ determining a standard context from among a set of predetermined standard contexts, the determined standard context having, among the set of standard contexts, a minimum distance to the context determined in step /d1/,

/d3/ determining the pattern as a function of said determined standard context.

25 2. Method for pattern recognition in a plurality of time signals of different types, a hierarchical model of standard contexts being defined, each standard context being associated with a respective level of the hierarchical model, the method comprises:

/a/ receiving the plurality of time signals;

/b/ for each received signal of the plurality of signals, creating an asynchronous time signal comprising events, said events being of the same forms of the asynchronous signal representative of a characteristic of the received signal;

5 /b'/ use of the events of each asynchronous signal as current events and use of the standard contexts of the first level of the hierarchical model as current standard contexts;

10 /c/ for each created asynchronous signal, creating an activity profile of said asynchronous signal, the activity profile comprises at least one activity value that decreases as a function of the time elapsed since an event that is the most recent among the successive events of said asynchronous signal;

/d/ for each given time among a plurality of given times:

15 /d1/ determining a context, said context being defined as the set of the values of the activity profiles, at the given time, of the created asynchronous signals,

/d2/ determining a standard context among the current standard contexts, the determined standard context having, among the set of current standard contexts, a minimum distance to the context determined in step /d1/,

20 /d3/ if a level of the hierarchical model has not been used, generating of an event for an asynchronous signal as a function of the current standard context identified in step /d2/;

/e/ if a level of the hierarchical model has not been used:

- 25 - use of the events generated in step /d3/ as current events,
- use of the standard contexts of a level of the hierarchical model not yet used as current standard contexts;
- re-executing of the steps /c/ to /f/;

/f/ if all of the levels of the hierarchical model have been used:

- determining a pattern in the plurality of received signals via a comparison of the standard contexts determined at the last occurrence of the step /d2/ with a base of standard signatures.

5 3. Method according to claim 2, wherein the comparison of the step /f/ comprises the calculation of a *Bhattacharyya* distance.

4. Method according to claim 2, wherein the comparison of the step /f/ comprises the calculation of a standardised distance.

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5. Method according to claim 2, wherein the comparison of the step /f/ is a comparison between a number of occurrences of determining standard contexts at the last occurrence of the step /d2/ with a base of standard signatures.

15 6. Method according to claim 2, wherein the decrease in the activity profile is a function of the level of the current hierarchical model.

7. Computer program product comprising instructions for implementing the method according to one of claims 1 to 6, when this program is executed by a processor.