NNStreamer run-time configurations

Users may alter behaviors by supplying the "nnstreamer.ini" file or updating environmental variables.

There are three layers of configurations, with higher priority from the top:

- Environmental variables (highest priority,)
- Configuration file (if not specified, it's /etc/nnstreamer.ini)
- Hardcoded default values (lowest priority)

Note: in Tizen, you cannot specify the location of nnstreamer.ini with env-var.

For search locations, files in the locations of higher priorities are found first.

For other values, the values configured with higher priorities override those with lower priorities.

Environmental Variables

- NNSTREAMER_FILTERS: the search location for tensor-filter subplugins
- NNSTREAMER_DECODERS: the search location for tensor-decoder subplugins
- NNSTREAMER_CUSTOMFILTERS: the search location for custom tensor-filters.
  - Note that users may specify the full absolute path of a custom filter to ignore this effect.
- NNSTREAMER_CONVERTERS: the search location for tensor-converter subplugins
- NNSTREAMER_CONF: the path to .ini NNStreamer configuration file. (/etc/nnstreamer.ini if not specified)

The intention of these is to override default values of .ini files without the capability/need to update /etc/nnstreamer.ini file in run-time.

However, in many embedded devices, as in Tizen, such capabilities are prohibited for security reasons.

Configuration File (.ini, /etc/nnstreamer.ini by default)

```
[common]
enable_envvar=true/false
# You may disable NNStreamer's environmental variables with this.
# However, with envvar, the location of nnstreamer.ini may be altered.
# Thus, this is effective only NNSTREAMER_CONF envvar is disabled (__TIZEN__ disables it)

enable_symlink=true/false
# If this is false, subplugin files should not be sym-linked. (regular files only)

[filter]
filters=PATH
# The search location for tensor-filter subplugins
# By default, /usr/lib/nnstreamer/filters/

customfilters=PATH
# The search location for custom tensor-filters.
# By default, /usr/lib/nnstreamer/customfilters/
# Note that users may specify the full absolute path of a custom filter to ignore this effect.

framework_priority_tflite=FW1,FW2,FW3,...
# If a .tflite file is given for tensor-filter or "Single" API,
# which neuural network framework should be used.
# If multiple frameworks are given, NNStreamer will try
# from the left.
# By default, tensorflow-lite,nnfw,armnn,edgetpu

[decoder]
decoders=PATH
# The search location for tensor-decoder subplugins
# By default, /usr/lib/nnstreamer/decoders/

[converter]
converters=PATH
# The search location for tensor-converter subplugins
# By default, /usr/lib/nnstreamer/converters/

[element-restriction]
restricted-element=element1,element2,element3,...
# If this is set, only the GStreamer elements in the list and NNStreamer's elements are allowed with
NNStreamer "Pipeline" API.
# We know that the ,ini configuration name is weird and we may update it soon. (e.g., allowed-elements)
# If you do not want to restrict the usage of GStreamer elements, do not define this configuration key.

[tensorflowlite]
enable_nnapi=true/false
# For tensorflow-lite subplugin, enable NNAPI. This can be overriden for each instance with GStreamer
property values in a pipeline.

[pytorch]
enable_use_gpu=true/false
# For pytorch subplugin, enable GPU. This can be overriden for each instance with GStreamer property
values in a pipeline.
```

Hardcoded Default Values

- Ini file location: /etc/nnstreamer.ini
- Filter subplugin path: /usr/lib/nnstreamer/filters/
- Decoder subplugin path: /usr/lib/nnstreamer/decoders/
- Custom filter paths: /usr/lib/nnstreamer/customfilters/
    - Note that users may specify the full absolute path of a custom filter to ignore this effect.
- Converter subplugin path: /usr/lib/nnstreamer/converters/

Related Code: /gst/nnstreamer/nnstreamer_conf.{c, h}

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