



Class AJASourceOp

Table of contents

Inheritance Relationships

Class Documentation

- Defined in [File aja_source.hpp](#)

Inheritance Relationships

Base Type

- `public holoscan::Operator` ([Class Operator](#))

Class Documentation

class AJASourceOp : public holoscan::Operator

[Operator](#) class to get the video stream from AJA capture card.

==Named Inputs==

- **overlay_buffer_input** : `nvidia::gxf::VideoBuffer` (optional)
 - The operator does not require a message on this input port in order for `compute` to be called. If a message is found, and `enable_overlay` is true, the image will be mixed with the image captured by the AJA card. If `enable_overlay` is false, any message on this port will be ignored.

==Named Outputs==

- **video_buffer_output** : `nvidia::gxf::VideoBuffer`
 - The output video frame from the AJA capture card. If `overlay_rdma` is true, this video buffer will be on the device, otherwise it will be in pinned host memory.
- **overlay_buffer_output** : `nvidia::gxf::VideoBuffer` (optional)
 - This output port will only emit a video buffer when `enable_overlay` is true. If `overlay_rdma` is true, this video buffer will be on the device, otherwise it will be in pinned host memory.

==Parameters==

- **device**: The device to target (e.g., "0" for device 0). Optional (default: "0").
- **channel**: The camera `NTV2Channel` to use for output (e.g., `NTV2Channel::NTV2_CHANNEL1` (0) or "NTV2_CHANNEL1" (in YAML) for the first channel). Optional (default: `NTV2Channel::NTV2_CHANNEL1` in C++ or "NTV2_CHANNEL1" in YAML).
- **width**: Width of the video stream. Optional (default: 1920).
- **height**: Height of the video stream. Optional (default: 1080).
- **framerate**: Frame rate of the video stream. Optional (default: 60).
- **rdma**: Boolean indicating whether RDMA is enabled. Optional (default: false).
- **enable_overlay**: Boolean indicating whether a separate overlay channel is enabled. Optional (default: false).
- **overlay_channel**: The camera `NTV2Channel` to use for overlay output. Optional (default: `NTV2Channel::NTV2_CHANNEL2` in C++ or "NTV2_CHANNEL2" in YAML).
- **overlay_rdma**: Boolean indicating whether RDMA is enabled for the overlay. Optional (default: true).

Public Functions

`HOLOSCAN_OPERATOR_FORWARD_ARGS (AJASourceOp) AJASourceOp()`

virtual void `setup(OperatorSpec &spec)` override

Define the operator specification.

Parameters

spec – The reference to the operator specification.

virtual void `initialize()` override

Initialize the operator.

This function is called when the fragment is initialized by Executor::initialize_fragment().

virtual void start() override

Implement the startup logic of the operator.

This method is called multiple times over the lifecycle of the operator according to the order defined in the lifecycle, and used for heavy initialization tasks such as allocating memory resources.

virtual void compute(InputContext &op_input, OutputContext &op_output, ExecutionContext &context) override

Implement the compute method.

This method is called by the runtime multiple times. The runtime calls this method until the operator is stopped.

Parameters

- **op_input** – The input context of the operator.
- **op_output** – The output context of the operator.
- **context** – The execution context of the operator.

virtual void stop() override

Implement the shutdown logic of the operator.

This method is called multiple times over the lifecycle of the operator according to the order defined in the lifecycle, and used for heavy deinitialization tasks such as deallocation of all resources previously assigned in start.