# ASUS IoT

AISVinoTool AISVinoPredictTool

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# **Getting Started**

# **System Requirements**

Before using AISVinoTool or AISVinoPredictTool, check if the system meets the following recommended system requirements:

CPU	Intel™ Core® i7 processor or faster
Memory	16GB or more
Software requirements	Microsoft Visual Studio 2017 Runtime
USB devices	ASUS USB dongle

#### NOTE:

- The AISVino API only supports CPUs and GPUs
- For the latest information on CPU and GPU requirements, refer to Intel® OpenVino<sup>™</sup> documentation on supported devices.
- To download and install Microsoft Visual Studio 2017 Runtime, refer to Microsoft documentation on Microsoft Visual C++ Redistributable downloads.

# **Environment Setup**

Refer to the AISVision installation guide for more information on downloading and installing the AISVision toolkit and any prerequisites including the Microsoft Visual C++ Redistributable, NVidia drivers, CUDA, and CUDA Deep Neural Network (cuDNN).

**NOTE:** To download the AISVision toolkit or installation guide, refer to the product support page for AISVision at <u>https://iot.asus.com/</u>

# **AISVinoTool**

## **AISVinoTool Overview**

AISVinoTool is a model conversion tool based on the Intel® OpenVINO<sup>™</sup> Model Optimizer. It can import and convert AISVision AI models (.ditov) into Intel® OpenVINO<sup>™</sup> compatible models (.ditir). For C++/C# development, the converted model can be used with an application built using the AISVision Predictor API, such as the AISVinoPredictTool.

**NOTE:** Ensure that the ASUS USB dongle is plugged in while using AISVinoTool or AISVinoPredictTool.

## **AISVinoTool Flowchart**



# **Using AISVinoTool**

**NOTE:** Before using AISVinoTool, ensure that the system environment setup has been completed and that the ASUS USB dongle is plugged in. Refer to the **System Requirements** and **Environment Setup** sections for more information.

- 1. Double click the AISVinoTool icon to start AISVinoTool.
- 2. Choose the AISVision AI model (.ditov) for conversion.

	AISVinoTool	– 🗆 ×
Model select input model file		Þ
Output select output path		<b>r</b>
	START	
20.0		ASUS IoT

3. Select the output folder for the converted Intel® OpenVINO<sup>™</sup> compatible model (.ditir).

	AISVinoTool	– 🗆 ×
Model D:\Da select inpu	tasets\ModelConvertTool\AlSVinoC	Checklist \1.4. 🙆 🕻
Output select outp	† ut poth	<b>L</b> *
$\subset$	START	
2.0.0		ASUS I@T

4. Click **Start** to begin converting the model.

AISVinoTool	– 🗆 ×
Model D:\Datasets\ModelConvertTool\AlSVinoChecklist\1.4 select input model file	
Output D:\Datasets\ModelConvertTool\AlSVinoChecklist\1.4 select output path	•
START	
20.0	ASUS IOT

5. (Optional) To convert additional models, click **Back** after the conversion is completed.

AISVin	oTool – 🗆 ×
100% Васк	<pre>consoles new version of Intel(R) Distribution of OpenVINO(TM) toolkit here https:// software.intel.com/content/www/ us/en/develop/tools/openvino- toolkit/download.html? cid=other&amp;source=prod&amp;campid=ww_2 02_bu_IOTG_OpenVINO-2022-1&amp;conte ntug_all&amp;medium=organic or on the GitHub* [ INFO ] The model was converted to IR v11, the latest model format that corresponds to the source DL framework input/output format that corresponds format that corresponds format that corresponds format that that the source format that the source forma</pre>
2.0.0	ASUS INT

# **AISVinoPredictTool**

## **AISVinoPredictTool Overview**

AISVinoPredictTool is a model performance verification tool based on Intel® OpenVINO<sup>™</sup> Model Optimizer technology. It can read Intel® OpenVINO<sup>™</sup> compatible models (.ditir), load pictures for prediction, and output the model prediction results, prediction time per picture, and the average time spent on prediction.

**NOTE:** For more information on multi-device operation, refer to Intel® OpenVINO<sup>™</sup> documentation on Multi-Device Plugins.

#### **AISVinoPredictTool Flowchart**



# Using AISVinoPredictTool

**NOTE:** Before using AISVinoPredictTool, ensure that the system environment setup has been completed and that the ASUS USB dongle is plugged in. Refer to the **System Requirements** and **Environment Setup** sections for more information.

- 1. Double click the AISVinoPredictTool icon to start AISVinoPredictTool.
- 2. Select CPU, iGPU, or CPU&iGPU as the device type depending on your system configuration.

	AISVinoPredictTool	- @ ×
Select and Adjust		Result
Device Type CPU	Console Result	
Select & Load Model	•	
Selected Image Folder Path	:	
Output Path	•	
Threshold Value	:	RUN
Version : 2.0.0		

3. Select an Intel® OpenVINO<sup>™</sup> compatible model (.ditir).

	AISVinoPredictTool	- 6 ×
Select and Adjust	Result	
Device	Console Result	
Select & Load Model		
Selected Image		
Output Path		
Threshold I	RUN	
Version : 20.0		Den Result

4. Select the folder containing the images for prediction.

	AlsVinoPredictTool	- 6		×
Select and Adjust	Result			
Device Type CPURIGPU	Console Result			
Select & Load Model				
Selected Image Folder Path				
Output Path				
Threshold Value Va	RUN	ben Rest	) .ilt	
Version : 2.0.0				

5. Select the output folder.

	AlSVinoPredictTool – ð	×
Select and Adjust	Result	
Device	Console Result	
Select & Load Model : Name Pulley Anomaly Type AnomalyDetection		
Selected Image Folder Path Corporation Context_case\R4_test_case\Anomaly_Detection\Pulley Anomaly\image\openvino		
Output Path		
Threshold :	RUN	
Version : 2.0.0		

6. Adjust the threshold setting, then click **Apply** to save your changes.

Select and Adjust	
Device	
Type CPU&iGPU	
Select & Load Model	Threshold Setting
Name Pulley Anomaly	Type
AnomalyDetection	
	UK .
Selected Image	
Folder Path G:\predictor_test_case\R4_test_case\Anomaly_Detection\Pulley Anomaly\image\openving	Value
	0.45
Output Path	
Folder Path G:\predictor_test_case\R4_test_case\Anomaly_Detection\Pulley Anomaly	0~0.99
Threshold	Canad
Value OK : 0.45	L\$ Apply Cancel
vion - 200	-
NOT . 2.0.0	

7. Click **Run** to begin prediction.

	AlSVinoPredictTool	- 8 ×
Select and Adjust	Result	
Device Type CPU&iGPU	Console Result	
Select & Load Model		
Selected Image Folder Path G:\predictor_test_case\R4_test_case\Anomaly_Detection\Pulley Anomaly\image\openvino		
Output Path Folder Path G\predictor_test_case\R4_test_case\Anomaly_Detection\Pulley Anomaly		
Threshold Value Value OK : 0.45	RUN	
Version : 20.0		Copen Result

**NOTE:** To cancel an ongoing prediction after it has started, click **Stop**.

8. Once the prediction is completed, click **Open Result** to view the prediction results.

	AlSVinoPredictTool	– 60 ×
Select and Adjust	Result	
Device	Console [Threshold] >> OK = 0.45 [Name   Time cost] >> cast_def100.pmg   0.04 sec. >> cast_def100.pmg   0.03 sec.	ľ
Select & Load Model	<pre>&gt;&gt; cast_def0.1955.png  0.04 sec. &gt;&gt; cast_def0.1137.png  0.03 sec. &gt;&gt; cast_def0.1137.png  0.03 sec. &gt;&gt; cast_def0.123.png  0.03 sec. &gt;&gt; cast_def0.122.png  0.03 sec. &gt;&gt; cast_def0.122.png  0.04 sec. &gt;&gt; cast_def0.123.png  0.04 sec. &gt;&gt; cast_def0.130.png  0.04 sec. &gt;&gt; cast_def0.141.png  0.04 sec. &gt;&gt; cast_def0.140.png  0.03 sec. &gt;&gt; cast_def0.145.png  0.04 sec. &gt;&gt; cast_def0.145.png  0.04 sec. &gt;&gt; cast_def0.145.png  0.04 sec. &gt;&gt; cast_def0.155.png  0.04 sec. &gt;&gt; cast_def0.165.png  0.04 sec. &gt;&gt; cast_def0.165.png  0.04 sec. &gt;&gt; cast_def0.165.png  0.04 sec. &gt;&gt; cast_def0.165.png  0.04 sec. &gt;&gt; cast_def0.175.png  0.04 sec. &gt;&gt; cast_</pre>	
Selected Image		
Output Path Folder Path G\predictor_test_case\R4_test_case\Anomaly_Detection\Pulley Anomaly		×
Threshold	RUN	
Version : 2.0.0		🗁 Open Result