



# Application Note #20 Python3 environment V4D 3.4 or latest versions only

# How to : «install the Anaconda3 package»

The application-note goal is to guide the user in the correct installation of the Anaconda3 Python package.

Anaconda allow to access and manage the most powerful data science and machine learning libraries, packages, and tools the open-source community has to offer.

Anaconda adds to the standard V4D Python environment many tools to improve its analysis capabilities.

# **Application Flowchart**



# Index

- 1. Download the Anaconda Package
- 2. Install the Anaconda package
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- 4. Test the Anaconda3 package

#### Note :

V4D 3.4 Python environment is compatible with the Python 3.x version.



# 1. Download the Anaconda Package

**Step 1.1** 

Open the Anaconda web pages using the following link:

# https:/anaconda.org

## **Step 1.2**

Select the Download Anaconda item.

anaconda.org

ANACONDA CLOUD Gallery About Anaconda Help

Download Anaconda

## Step 1.3 Click on Download The Individual Edition is Open source and freely distributable



With over 20 million users worldwide, the open-source Individual Edition (Distribution) is the easiest way to perform Python/R data science and machine learning on a single machine. Developed for solo practitioners, it is the toolkit that equips you to work with thousands of open-source packages and libraries.





# **Application Note**







# 2. Install the Anaconda package

**Step 2.1** 

Open the Download folder and locate the Anaconda3 setup file.

Anaconda3-2020.07-Windows-x86\_64.exe

**Step 2.2** Run it and press the *Next* button on the setup dialog





# 2. Install the Anaconda package

## Step 2.3

Click on the **"I Agree" button** to accept the License Agreement terms.

Anaconda3 2020.07 (64-	bit) Setup		-		$\times$
A	License Agree	ment			
O ANACONDA.	Please review t 2020.07 (64-bit	he license terms :).	before installing A	naconda3	
Press Page Down to see th	e rest of the agree	ement.			
End User License Agreeme	nt - Anaconda Ind	lividual Edition			^
Copyright 2015-2020, Ana	conda, Inc.				
All rights reserved under t	he 3-clause BSD Li	cense:			
This End User License Agre and Anaconda, Inc. ("Ana (which was formerly know	eement (the "Agre conda") and gover n as Anaconda Dis	ement") is a lega ns your use of A tribution).	l agreement betwo naconda Individua	een you al Edition	¥
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Anaconda, Inc. ————					
		< Back	I Agree	Can	cel

## Step 2.4 Select the **"Just Me**" option.



## **Step 2.5**

Press the "Next" button to complete the installation.



# 2. Install the Anaconda package

**Step 2.6** 

Change the Install Location from the default to the following: C:\Anaconda3

0	ANACONDA.	Choose Insta					
		Choose the fo	II Location Ider in which to inst	all Anacon	da3 20	20.07 <mark>(</mark> 64	-bit).
Se	etup will install Anaconda	3 2020.07 (64-bi	t) in the following fo	lder. To ins	stall in a	a different	t
10	lider, dick browse and se	lect another fold	er. Click Next to con	unue.			
Υ.							
\ \	Destination Folder			_			
	C:\Users\Maurizio\ana	conda3			Brow	/se	

## **Step 2.7**

Enable the option «Register Anaconda3 as my default Pythoon 3.8» package. Press «*Install*» to start the installation.





## 3. V4D preferences setup

## **Step 3.1**

Run Vision4D (3.4 and next release) select the Preferences item from the Extras menu.

#### **Step 3.2**

On the left panel, click on the "*Scripting*"item.

### **Step 3.3**

Enable the "Anaconda Enviroment" option. Browse the Anaconda3 installation folder.

Ext	ras	Window	Help
ø	Pre	eferences	
-412	Plu	ug-in Manag	jer
<b>P</b>	Tas	sk Monitor	

#### Preferences - Scripting

✓ General
Advanced
Keys
Analysis
Color Gradients
Content Types
New Files & Import
Personal Web\/iew
Scripting
Viewers
2D Viewer
✓ 4D Viewer
Data Settings
General Settings
Render Settings
Scalebar

	Use the built-in Python environment that comes with Vision4D.
С	External Python Interpreter
	C:\ProgramData\Anaconda3\python.exe
	Configure the path to the Python.exe.
0	Configure the path to the Python.exe. Anaconda Environment
۲	Configure the path to the Python.exe. Anaconda Environment C:\Anaconda3
0	Configure the path to the Python.exe. Anaconda Environment C:\Anaconda3 Configure the path to the environment folder.



## 3. V4D preferences setup

## Step 3.4

Install the arivis package

Test Environment Install arivi	s package Uninstall arivis package
<b>Step 3.5</b> Run the Compatibility test	
Test Environment Install ariv	is package Uninstall arivis package
	Progress 43%     Y      Python Compatibility Test     Step 4: Required packages      Cancel
Test completed successfully	arivis Vision4D Python Package Installation X Installing the Python package succeeded. Details OK
Test failed	arivis Vision4D Python Test Result × Scripting test for the conda environment failed. Failed: Connect to Vision4D. Required packages missing. Details OK

Note :

*If the left above error message is issued, try again to install the arivis python package.* 

Note :
Apply the settings and close the preferences panel.



## 4. Test the Anaconda3 package

Extras Window Help Step 4.1 ġ. Preferences... **Open Python Script Editor.** Plug-in Manager -1E | From the «Extra» menu, select Task Monitor the «Script Editor» item. 1 Run Script... П Script Editor Script Editor - Script1 File Edit View Script **Step 4.2** New Ctrl+N î٦ Create a new script. Open... Ctrl+O Open Sample Step 4.3 Close Ctrl+F4 Insert the following commands. Script Editor - Script1 File Edit View Script 🖵 Run Script 📠 Hide Output Pane 🖷 Hide Help Pane Script1 test DBSCAN.py Clustering\_Rev2(3\_4).py BGK Top\_Hat\_Rev3 (3\_4).py 1 import numpy as np 2 import skimage as skimage 3 import scipy as sci 4

### Step 4.4

Press "*Run Script*" (F5) and check the output message area.

# Note: Image: Second text and text and

## 4. Test the Anaconda3 package

## **Step 4.5**

Save the script if required. Then press «Run»

🦕 Script	Script not saved		-		$\times$
2	Do you w	vant to run script	without s	aving?	
	The script you	u want to start was modifi	ied without sav	/ing.	
	You can start not as file. Fo files modified	it without saving. This w r larger projects it is recor before starting the script.	rill run it as a st mmended to sa	ring. ave all	
	Remembe	r choice for all further scr	ript starts		
			_		_

If no error messages are issued, the package is correctly installed.

Script output	Error messages						
Starting Script fi	script nished. It d	lid not	interact	with	arivis	Vision4D.	
<							







Contact the arivis application support to receive additional technical details about the topic described in the application note, or how to adapt the application workflow to your requirements.

"The quantitative analysis of the images represents the art of transforming a visual sensation into its schematic and discrete form allowing its univocal description, classification and mathematical and logical interpretation of its spatial and temporal components"

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