**Comprehensive Guide to Installing Velodyne Decoder 2.3.0 and Efficiently Parsing and Uploading ROS Bag Files**

This walkthrough to install Velodyne\_Decoder-2.3.0 only works for Python version 3.10. Any other packages used for the bag\_to\_csv\_py3.py script also need to be installed in Python version 3.10.

Use py -3.10 only if your standard python is not 3.10 otherwise just use py.

**General Steps:**

1. Open a terminal.
2. Check Python version:

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1. If Python isn’t installed, install Python version 3.10.
2. If Python is installed, make sure it is version 3.10 (download if needed):



1. To use Python 3.10:

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1. Check pip version:

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1. To install pip:



1. To update pip:

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1. Optional: (error due to setting up build wheels)

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**Follow these instructions to install Velodyne Decoder version 2.3.0:**

1. **Create a parsing folder consisting of:**
   1. bag\_to\_csv\_py3.py
   2. parseCamera.py
   3. parseUtilities.py
   4. Velodyne-decoder-2.3.0
   5. Bag file to parse
2. **Change directory to this folder in a terminal (on a computer lab desktop open with Visual Studio 2022 - makes things easier):**

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1. **Check that the needed libraries are installed:**

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1. **To install Velodyne Decoder:**
   1. Go to: <https://pypi.org/project/velodyne-decoder/2.3.0/#files>
   2. Download the source distribution file.
   3. Download the built distribution file.
2. **Extract the source distribution file:**

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1. **Install the built distribution file:**



1. **To verify the installation:**

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**Running the Script:**

1. **Place the script and bag files in the same directory.**
2. **Run the script:**



If you get an error: "ndarray is not C-contiguous" - add the line in the script:

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**Above the line:**

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**Common Issues Faced:**

1. **Error: ndarray is not C-contiguous:**

Solution: Add ‘**points = np.ascontiguousarray(points)’** above ‘**md5\_scan = hashlib.md5(points).hexdigest()’** in your script.

1. **Error: No module named 'Velodyne decoder':**

Solution: Ensure you have installed ‘**Velodyne decoder’** correctly in the virtual environment.

1. **ROS setup issues:**

Solution: Make sure you have sourced the ROS setup.bash script correctly in your WSL environment.

**Uploading Parsed Bag Files:**

**Uploading to a Hard Drive:**

1. **Why a Hard Drive?**

Uploading the parsed bag files to OneDrive takes a significant amount of time due to its upload speed limitations (around 25-35 MB/sec). Using a hard drive can drastically reduce the upload time.

**Final Uploaded Parsed Data Location:**

1. **Location on Hard Drive:**
   * Make sure to create a dedicated folder on the hard drive for the parsed bag files to keep everything organized.
   * Example path: E:\Parsed\_Bag\_Files\
2. **Ensure Backup: (?)**
   * It is recommended to keep a backup of the parsed files (On One drive or Master Hard drive? Cause we are to upload the data onto DBMS and PostgreSQL Servers)

Following this walkthrough should help you install the Velodyne Decoder 2.3.0, resolve common issues, and efficiently upload parsed bag files.