Software Installation Guide – v4.1 (1/3/25)

This guide will help you install tools and packages required for this class.

1. Install Anaconda

To install Anaconda, go to

https://www.anaconda.com/download?utm_source=anacondadocs&utm_medium=documentation&utm_campaign=download&utm_content=installwindows

and follow the installation directions. You may need to register an Anaconda account if you do not have one.

Note: Install to default directory. **Do not put spaces in the path**.

Open the Anaconda prompt (in Windows, search for "Anaconda Prompt") and type

```
conda update conda
conda update --all
```

Note: Press 'y' when prompted. (This might take a little time).

2. Create anaconda environment and install packages

Open the Anaconda prompt (in Windows, search for "Anaconda Prompt") and type

```
conda create -n tf tensorflow pip numpy matplotlib
```

Note: Press 'y' when prompted. (This might take a little time).

Activate the environment and install packages

```
conda activate tf

conda install anaconda::graphviz pydot git pillow termcolor colorama
conda install conda-forge::opencv conda-forge::glob2
conda install conda-forge::scikit-fuzzy conda-forge::keyboard
python -m ensurepip --upgrade
pip install gem pyqt5
pip install mavspy
```

* Note: MAVS is installed to c:\users\<username>\mavs-binaries, where <username> is your Windows username

3. Install PyCharm

To install PyCharm, go to https://www.jetbrains.com/pycharm/download/#section=windows

Make sure Windows is selected under Download PyCharm
Important: Download the community (free) version
Follow directions

4. Download Git

Download Git
https://git-scm.com/download/win

5. Run a MAVS Simulation

Open a GIT Bash shell (in windows toolbar, search for 'Git Bash')

```
cd c:\users\<username>\mavs-binaries
git clone https://github.com/CGoodin/MAVS-Examples.git
```

In Anaconda prompt, change to the MAVS directory (use your username for <username>)

```
conda activate tf
c:
cd c:\users\<username>\mavs-binaries\MAVS-Examples\SPAV
```

Run MAVS example

```
python sim_example_keystrokes.py
```

Control car with W-A-S-D keys.
Take a screenshot showing the MAVS display.

Press "ctrl-c" in Anaconda to stop sim.

6. Run TF hello world program

Download tf_hello.py from Module 2 in Canvas.
Place it in `c:\users\<username>\mavs-binaries\`

In Anaconda, type

```
conda activate tf
c:
cd c:\users\<username>\mavs-binaries\
python tf_hello.py
```

Take a screenshot showing the program executing.

7. Turn in both Screenshots.