Install LabVIEW

1. Completely uninstall all old version of LabVIEW.
2. Reboot your computer.
3. Download the LabVIEW installer from: https://www.ni.com/en-us/support/downloads/drivers/download.labview-software-for-frc.html#330601
4. Run the installer.
5. If you plan on connecting to the robot with this computer, keep "disable Windows fast startup" checked.
6. Enter the credentials for your National Instruments account. If you don't have a National Instruments account, go ahead and create one.
7. Enter the following key in all of the "XXX" fields when asked for license information: B04P87006
8. Press activate. Some of the products will activate successfully, others will not, this is normal, go ahead and click "next.
9. Reboot your computer.
10. Download the FRC package installer from: https://www.ni.com/en-us/support/downloads/drivers/download/packaged.frc-game-tools.333285.html
11. Run the installer.
12. If you plan on connecting to the robot with this computer, keep "disable Windows fast startup" checked.
13. Reboot your computer.
14. At this point, LabVIEW 2019 (2020 FRC) should be installed along with the 2020 roboRIO imaging tool and the 2020 FRC driver station. Launch LabVIEW to confirm that the installation was successful.

Install Third Party Libraries:

1. Download the latest version of the Phoenix Tuner from: http://www.ctr-electronics.com/hro.html#product_tabs_technical_resources
2. Right click and Extract All…
3. Run the CTRE Phoenix Framework executable (if Windows warns you, click "More Info" and then "Run Anyways")
4. Run LabVIEW and confirm that the CTRE Library shows up under the Third Party pallet.
5. Download the latest SPARK MAX Client from: http://www.revrobotics.com/sparkmax-software/#spark-max-client-application
6. Run the SPARK MAX Client executable.
7. Download the latest Rev Robotics LabVIEW API from: http://www.revrobotics.com/sparkmax-software/#labview-api
8. Run the Rev Spark Max NI Package.
9. If you plan on connecting to the robot with this computer, keep "disable Windows fast startup" checked.

Install Git:

1. Download Notepad++
   a. Go to https://notepad-plus-plus.org/downloads/ and click the latest release and then download
   b. Install Notepad++
2. Download Git
   a. Go to https://www.git-scm.com/ and click download.
   b. When it asks for choosing the default editor, select Notepad++
   c. Open it and click through the instructions to finish download.
3. Generate a new SSH key.
   a. Open Git Bash
   b. To create a new ssh key, using the provided email as a label, copy the following, substituting in your GitHub email address:

   $ ssh-keygen –t rsa –b 4096 –C youremail@example.com

   c. When you are prompted to type in a location, press enter to select the default location.
   d. Create a password and type it in.
   e. Don't close out of Git Bash.
4. Add your SSH Key to the ssh-agent
   a. Keep Git Bash open
   b. Start the ssh-agen by typing in

   $ eval $(ssh-agent –s)

   c. You should get > Agent pid 949 (or another number)
   d. Add your private key (**note that there is a space between the "d" and the "~"**):

   Type: $ ssh-add ~/.ssh/id_rsa

   e. For more help: https://help.github.com/en/articles/connecting-to-github-with-ssh
5. Download Tortoise Git
   a. Go to https://tortoisegit.org/ and click download.
   b. Open it and click through the instructions to finish download.
6. Create a Github account:
   a. Go to https://github.com/ to create an account.
   b. Send Amelie or Dr. Luke the email address that you used and we will add you to the secret-city-wildbots organization

Checkout a Repository from GitHub

1. Identify a folder where you would like to work on your code projects
2. Go to GitHub and the repository you want and copy the URL. An example is:
   https://github.com/secret-city-wildbots/2020-Critical-Documents
3. Right-click in the folder a select "Git Clone…"
4. Paste the URL and click "Ok"
5. Right-click inside of the cloned folder and select "TortiseGit > Create Branch"
6. Name the new branch of the code that you will be working on and click "Ok"
7. Right-click inside of the cloned folder and select "TortiseGit > Switch/Checkout"
8. Select the desired branch from the dropdown and click "Ok"

Backup Code Changes

1. Right-click in the folder a select "Git Commit -->"
2. Record your changes in the Message box
3. Confirm that all of the files except for .lvlps and .aliases files are checked
4. Click "Commit" and then "Push"

Configure a Python Environment

1. Download and install Anaconda
   a. Go to https://www.anaconda.com/products/individual and scroll all the way to the bottom and select Python 3.7 64-Bit Graphical Installer
   b. Install Anaconda
   c. When asked to install "for all users," only install for yourself
   d. Leave the "PATH" checkbox unchecked
   e. Install VSCODE
2. Open Anaconda
3. Click on the gear icon above Spyder and select "install specific version" and select v4.1.3, now click install.
4. After Spyder has installed, launch it to make sure that it opens
5. Return to Anaconda and select "Environments" from the left-hand pane
6. Select "Update index"
7. Select "All" from the dropdown menu just to the left of the "Channels" button
8. Search for the following packages and install each one by right clicking on their checkbox and selecting "Mark for specific version installation"
   a. pyinstaller v3.6
   b. opencv v3.4.1
   c. matplotlib v3.1.3
   d. pandas v1.0.3
9. Launch Spyder to confirm that it still opens

Install the 4265 Path Planner

1. Download "FRC 4265 Path Planner.zip" from Google Drive
2. Extract all of the zipped files
3. Go to "FRC 4265 Path Planner/code/" and double-click "4265 Path Planner.exe"
4. It will take about a minute to load and then install
5. After installation, the software will close and you may double-click the executable to run it again. Note that it will still take about a minute to load.