## Matlab Setup

1. Download from this link, Select most recent version: [Purdue University - MATLAB & Simulink (mathworks.com)](https://www.mathworks.com/academia/tah-portal/purdue-university-31484706.html)
2. During the download, make sure the following are checked:
   1. Vehicle Dynamics Block set
   2. Simscape Driveline
   3. Powertrain Block set

## Setup

1. Double click processed\_motor\_data, click done
2. Double click complete\_plant, click model
3. Open ‘startup’, run it
4. Connect input, locate ‘simulation\_datasets’, select straight accel as the input to simulate
5. Set stop time to 15 seconds
6. Run it

## Sweeping

1. To adjust gear ratio, set the variable gr to what you want it to be. gr is a 1x4 matrix
2. To adjust the number of motors, set motor\_limit\_power to what you want it to be. motor\_limit\_power is a Simulink parameter. Use the following command to have the 2 rear motor enabled. There is no need to change any other parameter to enable/disable a motor(s).

motor\_limit\_power = Simulink.Parameter([0 0 15000 15000])