ABL\_Quad\_Traj: This file is used to run the Simulink model quadABLwind.slx and save the data for training a NN

Parameters: These are parameters loaded by the Simulink models

quadABLwind: this Simulink model reads data from files in the ABL wind data format and uses that wind velocity in the quadcopter dynamics

* Quadrotor: dynamics, attitude control, and motor and rotor dynamics
* Position control: waypoint navigation controller
* Wind generation2: read ABL wind data

Quadrotor.slx: Similar structure to quadABLwind, with the exception of Wind generation2. In this model, Corrected\_Wind is used to generate wind velocities. The default setup generates random winds between +-7 m/s every 0-15 seconds. Attaching the constant block ‘wind’ instead of the Convert\_To\_Dryden\_Frame1 will allow generation of a single wind

Skyline\_Quad\_Traj: Runs quadrotor.slx and saves the data in the format for training a keras NN. The Dryden wind turbulence intensity is set in this file (variable named ‘sigma’), and ‘wind’ for the constant wind (if desired) is set here as well. The waypoint is set using des\_Position, which is used to set NED position (:,1:3) and velocity (:,4:6) for the waypoint navigation controller.