# Week 3 Update: Wheel Control (Motors & Encoders)

4/15/22

ME/EE/CS 169

Tyler Nguyen and Lorenzo Shaikewitz

## 3. Encoders

(a) How many counts per motor shaft rotation (rotation of the magnet disk)?

16

(b) How many counts per wheel shaft (motor output)?

720 on both sides

(c) What is the gear reduction in the motor (hint: it is NOT 48 as labeled)?

GR = 720/16 = 45

## 6. Encoder Processing



Figure 1. Wheel Position (Left) and Velocity (Right) Data Without Filter

Moving the wheel by hand before filtering, we notice that the unit magnitudes appear correct, however there is a large amount of noise in the velocity graph.