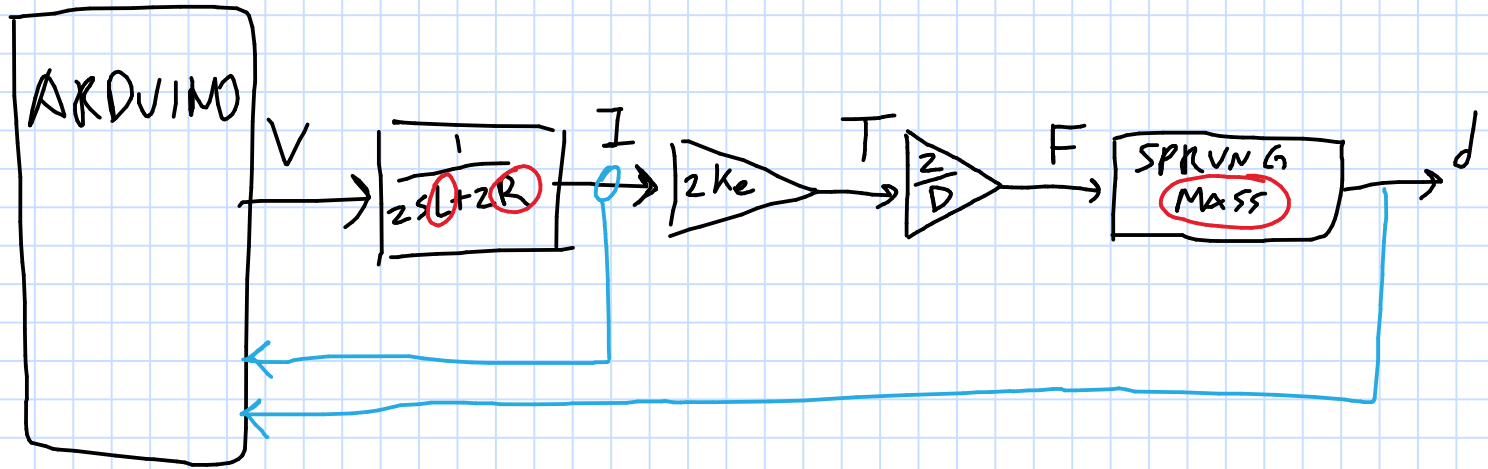
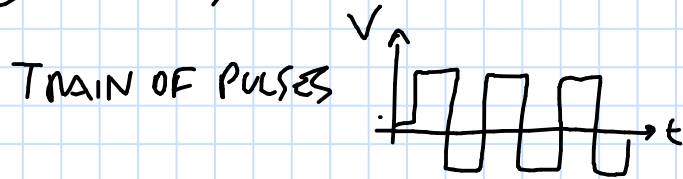


# SET-UP



① IDENTIFY MOTOR'S PARAMETERS



MEASURE BOTH  $V$  AND  $I$  OVER TIME.

USE OPTIMIZATION TOOLBOX TO FIND R, L.

② IDENTIFY  $k_e$

$$V = \text{const.} \Rightarrow F = \text{const.}$$

Measure  $F$  ( $F = k_d$ )

$$T = F \frac{D}{2} \Rightarrow T = 2k_e I$$

$$k_e = \frac{k_d \frac{D}{2}}{2I}$$