The MinSeg two-wheeled-robot was selected as the designated hardware platform due to:

- Its standard inclusion of several components which are considered desirable with respect to performing a control study. [*See Section* **??**]
- Its existing published academic work. [*Howard and Bushnell [0]*]

  [*This highlighted the device as a suitable hardware platform for control studies.*]
- Its existing driver support [*for the Mathworks software environment.*]. [*Mathworks [0]* and *Hurst [0]*]
- Its use of an Arduino-brand single-board microcontroller.

  [*This highlighted a significant level of support for a principal component.*]
- Its relatively affordable cost. [*~$300*]

Specifically, the MinSeg Model *M2V3* [0] was selected as the designated hardware platform, due to:

- Its standard inclusion of two [*equivalent but independent*] motoring axes.

n.axes	**Movement**	
1	*One-dimensional*	*(single, straight line only)*
2	*Two-dimensional*	

The MinSeg M2V3 is depicted from the front, the left-side, and the rear in Figure 0.1. The MinSeg M2V3 is depicted from the front in an exploded view in Figure 0.2. In both figures, a United States quarter is depicted for the comparison of scale.

In Figure 0.2, in addition to separated motors and a separated wheel and wheel axel, two auxiliary components are depicted. To the left is a retractable USB cable used to connect to a development PC. To the right, beside the battery, are two of the same Lego component. These were used to mount and swing the robot as an uninverted pendulum, [as described in Section **??**].

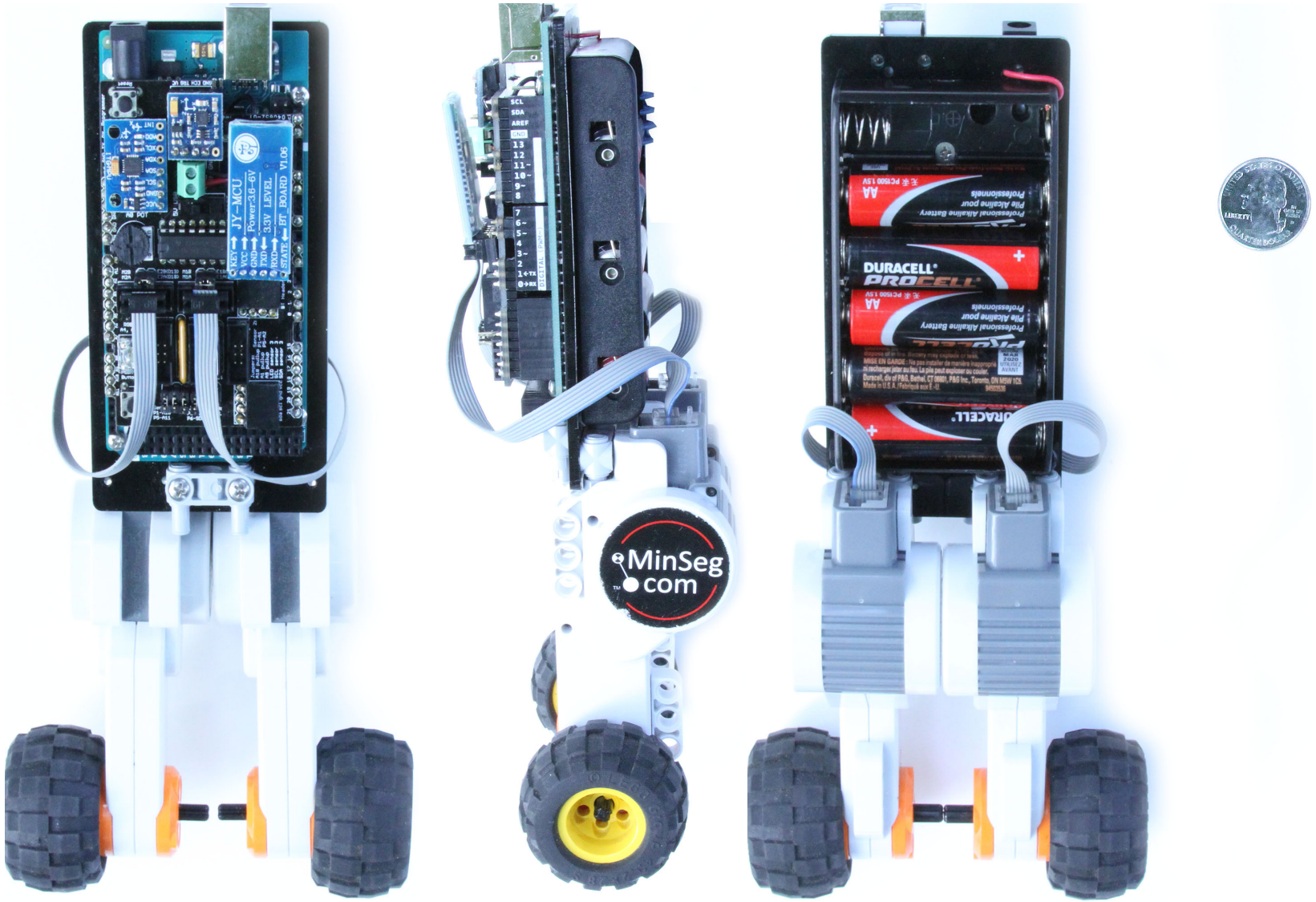

Figure 0.1: [Selection of Compatible HW & SW]: MinSeg M2V3 (Multiview)

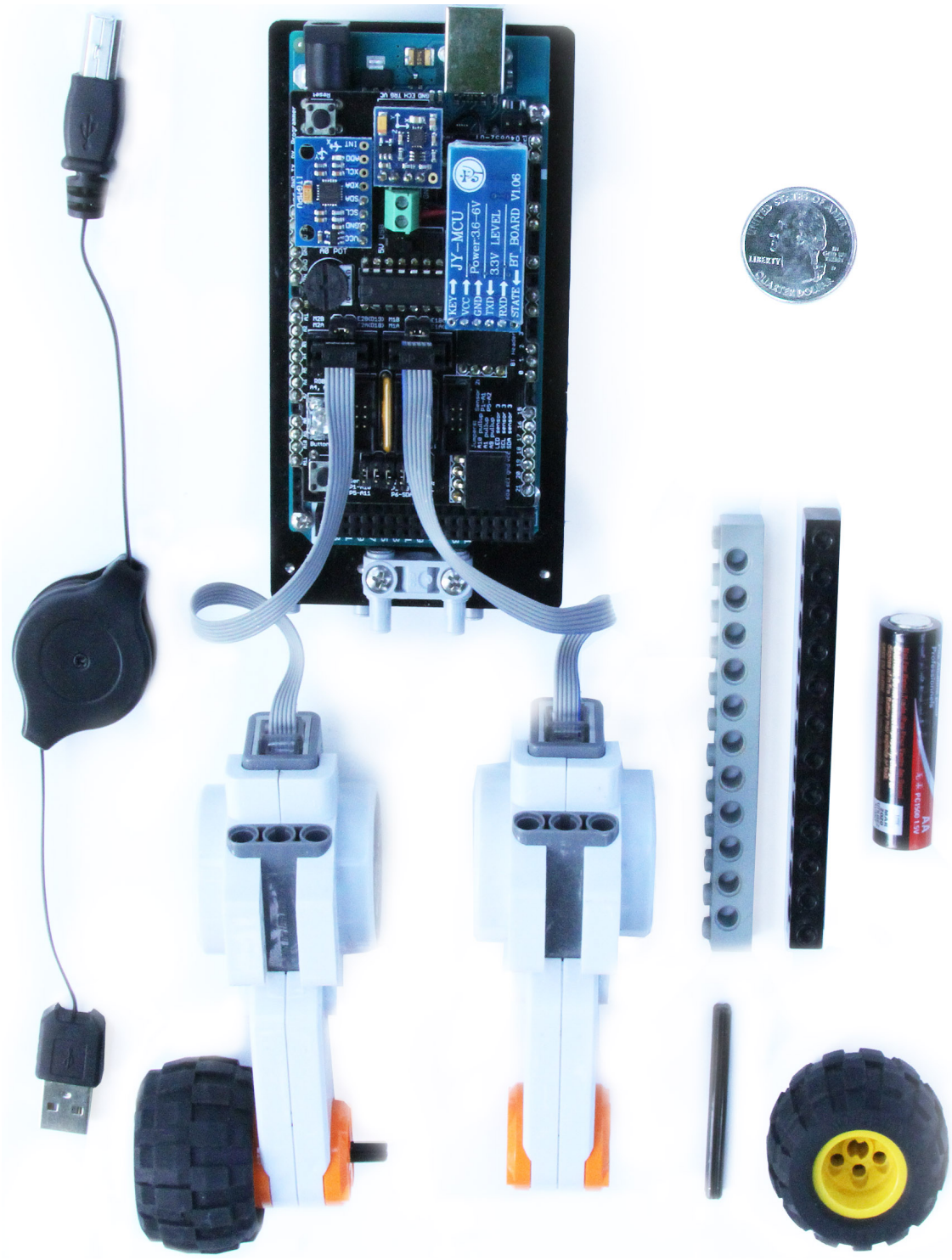

Figure 0.2: [Selection of Compatible HW & SW]: MinSeg M2V3 (Exploded)