Prelab 8

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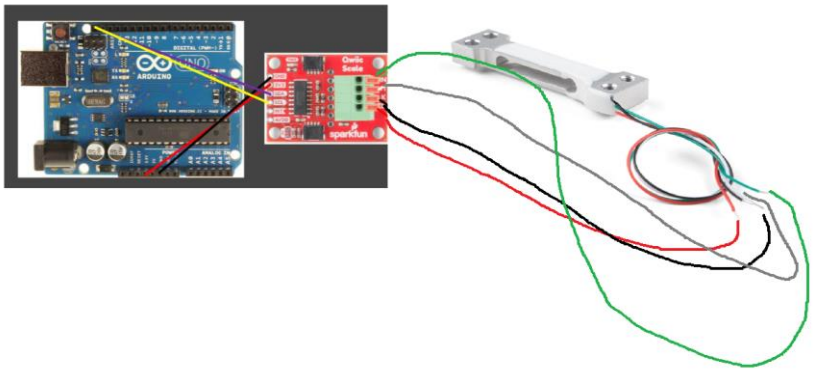
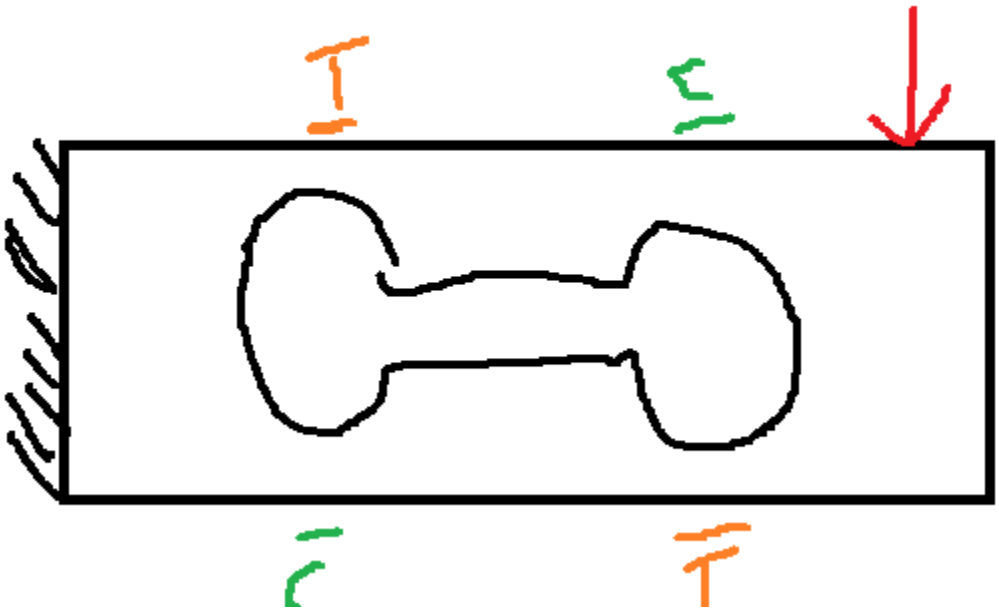
1. Wheatstone bridges are used to measure voltages changes because it is easier than reading the resistance changes. Also, with the Wheatstone bridge layout you can discern between different types of loading and limit the deflection to the one you want.
2. Hookup guide



3. This is a bar load cell can measure a capacity of 500g and is made of aluminum. The electrical resistance of the 4 resistors change based on being in tension / compression, so the voltage of the Wheatstone bridge can be measured. The resistance changes proportionally to the force applied (deflection from loading).



4. Strain gauges can measure static loads while piezoelectric elements can only measure dynamic loads. Therefore, to get the total load, the strain gauge would be the optimal choice vs the dynamic load only for the piezoelectric.